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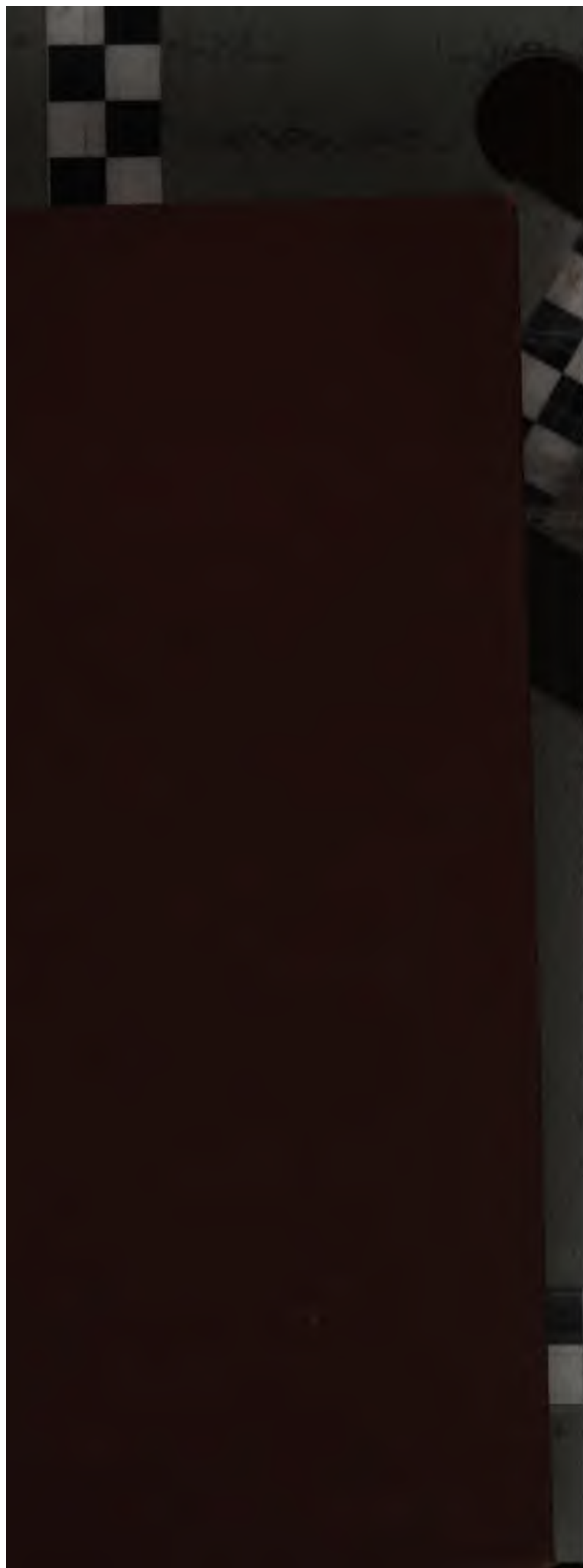
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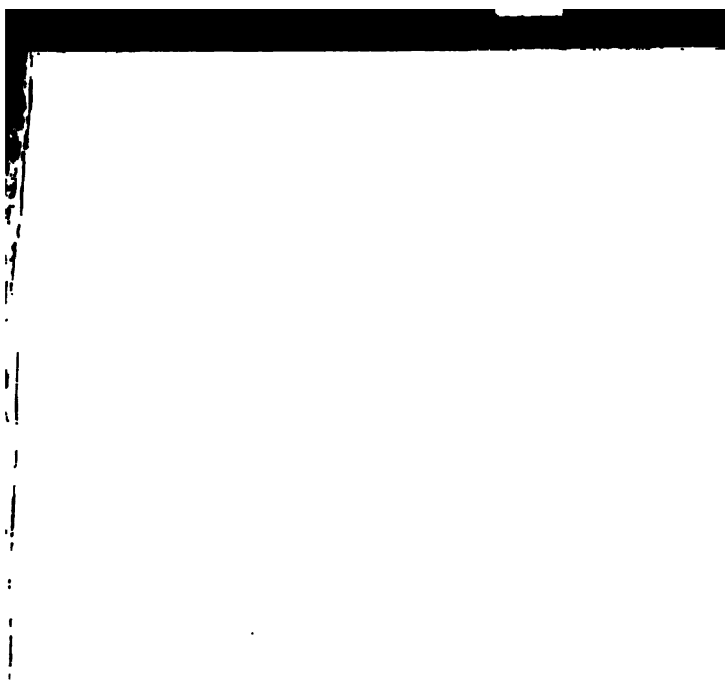


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THE
American Antiquarian.

VOL. VIII.

JANUARY, 1886.

No. I.

ANIMAL FIGURES IN AMERICAN ART.

The prevalence of animal figures throughout the American Continent must have impressed itself upon the minds of our readers. We have already shown in our articles on symbolism that these figures are not confined to the emblematic mounds, but are scattered everywhere. They are discovered in all parts of the wide-spread field; in picture writing, in inscriptions, in pipes and pottery, upon shell and bone ornaments, in wooden totem posts, in sculptured columns, in idol pillars, in the ancient codices, in paper and cloth, and in all the lines through which the ancient inhabitants could represent these figures. The number of ornaments and relics which contain animal figures is immense. They are perhaps not as numerous as the stone relics, such as axes, arrow-heads, spear-heads, and do not fill our cabinets as frequently as these; but if we consider the field through which they are scattered, and the variety of material in which they appear, and ways in which they were represented, we may conclude that they do not after all, fall very far short of the stone relics in number, and certainly do not in importance.

The reason for the existence of these figures is not always perceptible, but there seems to have been some latent principle which had great influence over the native mind; a principle which pertained to all the races and which was quite fundamental in its nature. What that principle was which ruled so extensively, is a mystery. It is possible that it came from a primitive animal worship and so may be regarded as a product of the religious sentiment; and yet if we take this position we must grant another, namely, that all the native races in America came up from a low stage and yet have retained the tokens or signs of their primitive worship. In that case we should consider that the animal figures were all of them symbols and that no animal form existed that did not have a religious significance. This, however, is the

very point about which we are uncertain. The inquiry is whether animal figures were symbolic or imitative.

This then is the subject to which we call attention, the imitative character of many of the animal figures. That there was an aptitude among the prehistoric races for constructing art forms will be seen from the following facts: 1. The number and variety of relics which seem to have no other object than to gratify the fancy. 2. The great imitative skill exhibited by these relics. 3. The taste for art forms was not confined to the civilized races but prevailed among the rudest and the wildest. 4. The skill for making these forms was exercised in a great number of ways. 5. The material used did not matter; the skill for making imitative figures overcame all difficulties and mastered the material used, whatever it was. 6. The beauty exhibited by the advanced forms differs from that seen in the lower specimens only as the patterns, and figures are more elaborate; but indicate the same taste and skill. 7. The improvement of art does not depend upon the introduction of a new sense of beauty, or even the change of that sense, but rather the cultivation of something which is inherent in the entire American race. We are now considering native American art, and the hypotheses which we have laid down refer only to the American races. The same may be true of all art. The sense of beauty is inherent in human nature.

It requires no new faculty to see the beautiful in nature or to imitate it in art, but only the cultivation of the faculties which we have.

The American races were evidently endowed with a sense of beauty to a remarkable degree. Their homes were in the midst of the beauties of nature and they always selected the most beautiful spots both for their residence and for their burial places. In a word, they had an inherent sense of beauty. There are many monuments and relics which are the products of a native American architecture, especially that of the civilized races, but which possess advantages as containing many beautiful features, and it seems to be equal to that of the barbaric races on other continents, and no equal to that of the civilized.

The prehistoric animal figures of American art is the special relic which we are now considering.

1. We have examined these figures with a number and variety of eyes which may be said to be presented.

2. We have seen that the skill which was exercised by the prehistoric races in making these figures was exercised in a great number of ways.

3. We have seen that the skill which was exercised in the animals was exercised in a great number of ways.

4. We have seen that the skill which was exercised in the animals was exercised in a great number of ways.

5. We have seen that the skill which was exercised in the animals was exercised in a great number of ways.

the forms which belong to the historic races we are to distinguish from those which belong to the prehistoric races.

In making these inquiries we are to confine ourselves to intrinsic evidence and not go outside of this to examine into the credibility of witnesses or the genuineness of the totems. The analysis of the figures and the study of their different parts may help us to understand the subject. But the peculiarities of the native art must be carefully traced. The superstitious character of the native mind must also be brought into account. The art forms must, to a degree, be interpreted in the light of the religious sentiment. Art was correlated with mythology, in America as well as in Greece, and the æsthetic character of the native mind was exhibited in both.

I. Let us first consider the number and variety of animal forms.

1. The geographical districts furnish different animal forms; they also present art in different stages; and so we have not only a great variety of animal figures, but different methods of representing them.

2. The material employed was quite different in different sections of the country and even in the same district animal forms were represented in all kinds of material.

3. There were different motives which ruled in the construction of animal figures. These figures were sometimes merely objects of fancy and again were objects of worship.

These considerations all complicate the subject and yet they may be analyzed and understood, and the different art forms distinguished from one another by these means. We do not mean to say that all animal figures were imitations of the animals of the district where the specimens are found; nor do we mean to infer that the figures which seem to be mere objects of fancy may not have been religious in their character but we are merely laying down what seem to be general principles though there are many exceptions to them.

The American school of art, and especially that department of it where animal figures are imitated, is before us, for us to enter and examine its different models and specimens. The prevalence of animal figures in native American art was much greater than is generally supposed. Any one who will take pains to examine the different specimens, will see this. A brief review of the field will show the position animal figures occupy, and at the same time reveal the different phases which these figures assume.

American art is presented in different lines as follows:

(1.) Drawing. There are drawings upon bone, bark, boards, and many other materials. Wherever drawings are found animal figures are very common.

(2.) Inscriptions form another line. These are found in tablets and on rocks; wherever there are inscriptions, there are animal figures.

4. Carved objects are numerous. The carving may be in stone, in wood, and occasionally in shell or bone. But wherever it is, and whatever the material, carved animal figures are much more numerous than any other.

(4) Moulded objects are common. These are more numerous among the advanced races than among the savages, and yet the hunter races sometimes exhibit considerable skill in moulding. Pottery is said to belong to the middle grade of cultus, but the distinction is not so much in the material as in the skill of constructing. The moulding of pottery into animal forms was very common among the native races.

(c.) Mounds and earthworks form another line in art. These structures were sometimes solid cones, sometimes walls which surrounded enclosures, sometimes massive pyramids, and sometimes emblematic or symbolic figures. To this last class belong the effigy mounds. Animal figures are not so numerous in the earth mounds as they are in drawings, carvings, inscriptions or in any other department of native art; but where they are found they always prove interesting and striking objects.

(2) Sculptured stone. This differs from carved objects in that it is generally in bas-relief, though there may be specimens of sculpture which can hardly be distinguished from carving. The sculpture of America abounds with animal figures.

(c) Architectural structures. It may seem singular, but the use of elements of architecture in which stone is wrought and placed together so as to resemble animal figures.

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methods and styles which were peculiar to the native artists. This, then, brings us to another part of our subject.

II. The imitative skill of the prehistoric races. This subject has especial interest at the present time, as several papers have been published on it, and much discussion has arisen over it. It is probable that the discussion will lead to a clearer understanding of the methods of the native artists or at least to a closer study of the specimens of the primitive art.

1. We make a remark at the outset, that naturalists can aid the archæologists in this work and yet the aid must be in a considerate and friendly spirit, and with no attempt to dictate and certainly with no arrogating of superior wisdom. The recognition of the animals intended may be difficult to the archæologist because of his want of familiarity with the animals. In this the naturalist has the advantage. On the other hand, the archæologist is expected to understand the method of the native artist much better than the naturalist and he is better calculated to pass an opinion on the imitative skill and artistic taste of the prehistoric sculptors and painters. If the naturalists expect that the native artists are to exhibit the accuracy of nature in the representations of animal life, they expect more than has been realized in modern art. It is very high art when a sculptor can represent nature in all its details, and if the artist is true to life in the main, we do not stop to criticize the imperfect parts but are ready to admire the imitation as a whole. To illustrate: a native may have represented a bird as deficient in one of its toes or as having a bill which is longer or shorter than is natural; he may represent an animal as having either two legs, or four, and may give it a tail that is longer or shorter than that which is natural, and yet we may pronounce his imitative skill as admirable. It depends altogether upon the standard or criterion. We doubt whether the naturalist is any better qualified to furnish this standard than the archæologist. The specimens are to be judged as works of art; (not modern,) but prehistoric art, and the archæologist is as familiar with this as the naturalist. The negative side may be presented by the naturalist, and he may fail as a critic, utterly; but if, on the other hand he would put the positive side out, he would receive gratitude of archæologists generally.

2. We call attention in this connection to the criticisms which have been passed on archæologists on these points. The archæologists of this country are not held by any theories but are conscientiously seeking for the truth. They welcome all discoveries, and accept all well established facts, no matter what may be the effect upon any theory.

It has been their fortune to come in contact with specialists on either side, who have furnished them with information on certain technical points. Generally, this contact has been of great advantage, and the problems which are before them have seemed

to be hastening toward a solution from the mutual aid and co-operation of the gentlemen engaged in studying the different sciences. Criticism has not been an object with either side. The positions of other scientists have been respected and the archæologists have acknowledged their indebtedness. The science of archæology has grown up in this way.

In reference to laborers in the past, archæologists have also been respectful, realizing that their work was conducted under great difficulties. Those who, in this country, have been devoted to the subject and have furnished so much valuable material, have seemed especially deserving of praise. The data of the science have come through the labors of these men, and the work is a grateful one throughout. These facts are to be borne in mind when we consider the criticisms which have been passed upon archæologists, and especially upon the work done by the authors of the "Ancient Monuments." It should be remembered that the book by Squier and Davis was published about forty years ago, and that great progress in art and science has been made since that time. Yet it will be noticed that great discrimination is manifest by them when they speak about archæological relics, and great modesty is manifest by them when they treat about the facts of zoology. These gentlemen were studying the relics in their bearing upon ethnological problems, and yet they have furnished much information in zoology. A series of quotations may illustrate this point. These authors say, in their work on the Ancient Monuments, "some of these sculptures have a value, so far as ethnological research is concerned, much higher than they can claim as mere works of art, this value is derived from the fact that they faithfully represent animals and birds peculiar to other latitudes, thus establishing a migration, a very extensive inter communication, or a contemporaneous existence of the same race over a vast extent of country." * * "It is unnecessary to say more than that as works of art, they are immeasurably beyond anything which the North American Indians are known to produce." * * "A much higher rank can be claimed for the mound sculptures; they combine taste in arrangement, with skill in workmanship, and are faithful copies, not distorted from nature. They display not only the figures and the characteristic attitudes, but in some cases, as we have seen, the very habits of the objects represented. So far as fidelity is concerned, many of them deserve a rank beside the best efforts of the artist naturalists of our own day." * * "They are simple in form as in design, and as works of art beyond a faithful observance of nature and great delicacy of execution, little can be claimed for them; in these respects they are certainly remarkable and will be the more admired, the more closely they are inspected." * * "Many of these exhibit a close observance of nature and a minute attention to details, such as we could only

expect to find among a people considerably advanced in the minor arts, and to which the elaborate and laborious, but usually clumsy and ungraceful, not to say unmeaning productions of the savage, can claim only a slight approach." * * "It will of course be understood that nothing of the imposing character of many of the sculptured relics of Central America is found in the mounds; we have no sculptured facades of temples and palaces, invested with a symbolic meaning or commemorative of the exploits of chiefs and conquerors; nor have we ponderous statues of divinities and heroes, nothing beyond the simplest form of stone structure." * *

"These singular relics have been thus minutely noticed, inasmuch as they have a direct bearing upon some of the questions connected with the origin of the mounds. That we find marine shells, or articles composed from them, in the mounds, is not so much a matter of surprise, when we reflect that a sort of exchange was carried on even by the unsympathising American tribes, and that articles from the mouth of the Columbia are known to have found their way, by a system of transfer, to the banks of the Mississippi; their occurrence does not necessarily establish anything more than that an intercourse of some kind, was kept up between the builders of the mounds on the banks of the Ohio, and the sea. There is, however, something more involved in the discovery of these relics. They are undistinguishable, so far as material and workmanship are concerned, from the entire class of remains found in the mounds; and are evidently the work of the same hands with the other effigies of beasts and birds. And yet they faithfully represent animals found (and only in small numbers), a thousand miles distant upon the shores of Florida." * *

Here then we have the comments on the imitative character of the pipes, written by archæologists who lived before the science had made much advancement. We consider them judicious, well guarded, and discriminating, and doubt whether any archæologists of the present day would make them any more so. Still, that our readers may understand the limitations which may be put upon the native art, or rather, recognized in the specimens of art, we shall quote the language of the naturalist who has undertaken to criticise them as imitations.

Mr. Henshaw says: "It is precisely upon the supposition that the carvings were accurate copies from nature, that the theories respecting them have been promulgated by archæologists; on no other supposition could such theories be advanced. So accurate indeed, have they been deemed, that they have been directly compared to the work of modern artists, as will be noticed hereafter." * * "So far in point of fact is this from being true, that an examination of the series of animal sculpture can not fail to convince any one, who is even tolerably well acquainted with

our common birds and animals, that it is simply impossible to recognize specific features in the great majority of them. They were either not intended to be copies of particular species, or, if so intended, the artist's skill was wholly inadequate for his purpose." * * "Following the lead of the authors of 'Ancient Monuments,' also, with respect to theories of origin, these carvings of supposed foreign animals are offered as affording incontrovertible evidence that the Mound Builders must have migrated from, or have had intercourse direct or indirect, with the regions known to harbor these animals." * * "Except that the theories based upon the sculptures have been enunciated more positively and given a wider range, they have been left almost precisely as set forth by the authors of the 'Ancient Monuments,' while absolutely nothing appears to have been brought to light since their time in the way of additional sculptured evidence of the same character." * *

The same writer says: "Particular attention may be called to the deep and lasting impression made by the statements of the authors as to the great beauty and high standard of excellence exhibited by the mound sculptures. Since their time writers appear to be well satisfied to express their own admiration in the terms made use of by Squier and Davis. One might, indeed, almost suppose that recent writers have not dared to trust to the evidence afforded by the original carvings or their fac-similes but have preferred to take the word of the authors of the 'Ancient Monuments' for beauties which were perhaps hidden from their own eyes." * * "It is, indeed, a little curious to note the perfect unanimity with which most writers fall back upon the above authors, as at once the source of the data they produce in support of their theories, and as their final, nay, their only authority." * * "In the main, the theories first announced by the authors of Ancient Monuments as the result of their study of the mound sculptures, are those that pass current to-day."

3. The point which we desire to make is this: will the naturalist who undertakes to criticise the specimens which have come down to us from the native artists give us some criterion by which we can judge them as imitations? If the measurements of the different parts of the animals in question could be given and the proportions of their limbs, wings and other parts of the body could be stated we might then determine the accuracy or inaccuracy of the specimens. This work has to a certain extent been done by the archaeologists,* but naturalists are supposed to be better qualified to do it. The nearest approach to this which the author of "Animal Carvings" has reached is the remark which he has made in reference to the "salient points." We quote his language and are willing to give him as much credit as

*See Am. Antiquarian, Vol. II, No. 1.

if it were a new discovery. He says . " In considering the degree of skill which is exhibited by the mound sculptures in their delineation of the features and characteristics of animals, it is of the utmost importance to note that the carvings of birds and animals which have evoked the most extravagant expressions of praise as to the exactness with which nature has been copied are uniformly those which, owing to the possession of some unusual or salient characteristic, are exceedingly easy of imitation. The stout body and broad flat tail of the beaver, the characteristic physiognomy of the wild cat and panther, so utterly dissimilar to that of other animals, the tufted head, and fish-eating habits of the heron, the raptorial bill and claws of the hawk, the rattle of the rattle snake, are all features which the rudest skill could scarcely fail to portray."

But we set opposite to this the quotation from Squier and Davis, given above, especially that part which refers to the habits of the objects represented. " They display not only the figures and the characteristic attitudes, but in some cases, as we have seen, the *very habits* of the animals represented."

This is the peculiarity of the carved relics as well as the effigies found in the emblematic mounds. They not only represent the "salient characteristics" of the animals, but they make those characteristics and features represent the habits of the animals.

It appears that the authors of the "Ancient Monuments" had a clear discernment as to what were the true characteristics of the relics, and that they understood their true merits and were able to describe them without any bias, whatever. There is, however, one question which we do not find answered either in the "Ancient Monuments" or in the "Animal Carvings," namely was there not a system of classification of the animals by the native artists, according to their habits, which is as strictly followed and as strikingly set forth as if the particular species according to any modern system were made the standard?

III. Do the imitative qualities in the relics enable us to recognize the animals intended? In reference to the majority of the relics, there is no dispute. The carved pipes do frequently represent the animals so that they can be easily recognized. The same is also true of the effigies in the mounds, the inscribed figures seen upon rocks, those which are painted, and moulded in pottery, those which are carved in wood, and those which are sculptured into idols. It may be true, as Mr. Henshaw says, that the particular species or variety of animal is not always recognizable; but we think that the generic class is generally pretty well represented; and that the naturalist need not be at a loss in determining what animal was intended. We must remember, however, that there was often a religious sentiment connected with the animal forms, and that that sentiment seized upon points or peculiarities about the animals which might easily es-

cape the notice of a naturalist, but which would forcibly impress the native mind. While on the other hand, those very points which might be distinctive of a species, to the eye of a zoologist would escape the notice of a native artist.

Mr. Henshaw says: "It is certain that it is a common practice of Indians to endeavor to perpetuate the image of any strange bird or beast, especially when seen away from home, and in order that it may be shown to his friends." The authors of the Ancient Monuments virtually say the same thing and archæologists generally endorse the position. But if the naturalist expects the Indian or the mound builder to represent the little peculiarities of structure which to modern science is the basis of classification, he is expecting more than he will find. The point which we desire to know is whether the prominent features of the animals are so closely imitated that we may recognize the animals from these. Possibly the habits of the animals were represented by some subtle part of the figure which we, because of our inadvertance, fail to see. Possibly too, the religious significance may have been hidden in the image, and we, owing to our want of acquaintance, fail to see that.

This leads us to consider a few of the figures which have been most in dispute.

1. The Manatee. The figures which represent the Manatee are



Fig. 1.

Fig. 2 from "Flint Chips;" Fig. 3 is called by Stevens a manatee by Dr. Rau, an otter; Fig. 4. is from "Ancient Monuments" and there called an otter. In these we see, that the authors of "Ancient Monuments" were generally correct. The habits of the animal should have been described, but for these we find that the archæologists, Squier and Davis, have furnished more information than the author who criticises them. They have quoted extensively from the naturalists of their day, and have shown that this animal had some remarkable characteristics. * "The name of Manatee was given it by the Spaniards, in consequence

of the toucan taken from "Ancient Monuments" but copies of them have been published by Stevens, the author of "Flint Chips." Fig. 1 is taken from "Ancient Monuments"

* The name was furnished by the Ethnological Bureau, Second Annual Report.

quence of the short anterior extremities which were regarded as hands. It has been found difficult to assign a place for it in the animal creation, and it has been remarked that it may be indiscriminately called the last of the beasts, or the first of fishes. It has two pectoral or abdominal mammal, which from their position probably gave rise among mariners to the fable of the mermaid. Columbus, when he first saw these animals in the West Indies, called them *sirens*. They bring forth two young ones at a birth; in defense of which, the manitus, though a peaceable and harmless animal, is insensible to pain or fear. Its habits are little understood. It is supposed never to leave the water, but frequents the shores, to feed upon the grass at the edge. Sea-grass or fucus and marine herbage are supposed to constitute its principal, if not its only food; though this is a point upon which naturalists have not ventured to give a decision. The opinion, however, seems general, that it is an herbivorous animal. As before observed, the manitus is found only in tropical waters, frequenting the mouths of rivers, but sometimes ascending them to great distances. They were seen by Humboldt in the Rio Meta, a branch of the Orinoco, one thousand miles above its mouth; and it is said they are found in the Amazon two thousand miles from the sea. They are also found among the Antilles on the southern coast of Mexico, and on the coast and in the rivers of Florida, in the United States. Excepting upon that peninsula, we have no account of their occurrence on our coasts.

Bartram mentions a singular spring, a few miles below Tallahassee, Florida, which was frequented by the manitus; and its bones are found, and occasional living specimens observed, in the Manatee river which enters Tampa bay. The peculiarity of



Fig. 2.



Fig. 3.

the manatee is that it is strictly herbivorous; this characteristic, the authors of the ancient monuments have stated, and have nowhere given a cut or a remark which is inconsistent with this. They say that "seven sculptured representations of this animal have been taken from the mounds, of which three are nearly perfect." They say that "the external features are faithfully and minutely exhibited in the sculptures; the truncated head, small and scarcely distinguishable ears, thick, semi-circular snout, peculiar nostrils, tumid furrowed upper lip, singular feet or fins, and remarkable moustaches, are all distinctly marked, and render the recognition of the animal complete." Mr. Henshaw, on

the contrary, would make the animal represented as manatee, not herbivorous but carnivorous, and identify the images as representations of the otter, yet the mound builders evidently drew the distinction between the two, universally representing the one as herbivorous and the other as carnivorous.

They represented the manatee as having only two feet, and the otter, either as having two feet or else figured the animal with two feet visible, and the other invisible. The distinction between these animals is clearly portrayed by the pipes, showing that the native artists were familiar both with the form of the animals and their habits. See the cuts, Figs. 2, 3 and 4.



FIG. 2.

It appears that the imitative faculty was well developed by the mound builders for they recognized the distinctive habits of the animals and were successful in marking them apparent. The skill of the native artists is manifest in that only the most important parts are portrayed; and yet they are portrayed clearly enough for most persons to recognize the animal intended, and not confound an herbivorous animal with a carnivorous one.

The otter, as a subject of dispute in reference to the pipe, there is no doubt in the mind of the writer, a good reason for its being so represented. The otter is not so distinct as the manatee.

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of the eyes, show clearly enough that it is a likeness of no bird known to ornithology." See Fig. 5.

The second case where a mistake has been made is in reference to a bird which the authors call a toucan, but which



Fig. 6.

Mr. Henshaw calls the crow or raven. He says, "It is one of the most happily executed of the avian sculptures. See Fig. 6.

The third specimen is, however, more clearly a toucan. This bird is represented as having a long bill and head, short body, and with toes which vary in different cuts, so that these are doubtful. The peculiarity of the figure is, that it is represented as feeding out of the hand, lines representing fingers, being in front of it. This would indicate that the bird was tame. On this point we quote both from the "Ancient Monuments," and from "Animal Carvings." See Fig. 7.



Fig. 7.

"This bird is common only in the tropical countries of South America. *In those districts, (Guiana and Brazil,) the toucan is almost the only bird which the aborigines attempted to domesticate." †In reference to this, Mr. Henshaw says that it was by no means an uncommon practice for North American Indians to capture and tame birds; the New England Indians tame hawks; the Zunis, a great number of eagles and turkeys; the Dakotas, tame eagles, crows, hawks, and magpies; the Congarees of North Carolina, storks and cranes.

*"Ancient Monuments," p. 266.

†"Animal Carvings," p. 138.

The only question is as to the animal represented. There is a mound pipe in the possession of Mr. Wm. M. Anderson, of Circleville, Ohio, which is imitative of the same bird, but differs from the one described in the "Ancient Monuments," by having one hole of the pipe in the back of the bird between the wings, and the other in the tail. The stripes for feathers run perpendicular instead of horizontal. The animal in this pipe represents the toucan, more than the one depicted in the "Ancient Monuments," as its body is an exact counterpart,* except that it lacks the tail. The distinguishing feature of the bird in both pipes is the bill, and we maintain that the identification of the image with the toucan is the correct one. The habits of the bird are at least represented by it.

3. There are several birds which are represented in the pipes which are not so easily identified, owing to the fact that their habits are not indicated. Concerning some of these, Mr. Henshaw has expressed his opinion.



Fig. 8.

The first is the turkey buzzard (Fig. 8.) A specimen of this is given by Squier and Davis, "Ancient Monuments" (Fig. 117.) with the remark "probably intended to represent a turkey buzzard." Mr. Henshaw says, "the notches cut in the mandibles are perhaps meant for serrations, of which there is no trace in the bill of the buzzard. As suggested by Mr. Ridgeway, it is perhaps nearer the cormorant than any thing else, although not executed with the detail necessary for its satisfactory recognition!"

* Another figure, according to Squier and Davis, represents the tufted cherry bird, (Fig. 9). Mr. Henshaw thinks it is a badly

*The cut representing this pipe will be seen here on.

executed likeness of the tufted cardinal gross-beck or red bird.



Fig. 9.

Another, (Fig. 10,) Squier and Davis say will readily be recognized as intended to represent the head of the grouse. Mr. Henshaw says "the cere and plainly notched bill of the carving



Fig. 10.

clearly indicate a hawk." This is the bird which is represented in the cut, Fig. 10. It will be noticed that it has a head wholly unlike that of the hawk. The bill also is much shorter. Two hawks' heads are presented in cuts by way of comparison but they have very little resemblance to this one except in the notched bill.

The carved figure concerning which the naturalist has made the greatest mistake is one which Squier and Davis call the owl, but which he calls the bat, (Fig. 11.). This is a tube of steatite upon which is carved as is stated "in high relief the figure of an owl attached by his back to the tube. This drawing is remarkably bold and spirited and represents the bird with its claws contracted and drawn up, and head and beak elevated as if in the act of defense and defiance." Mr. Henshaw says "it may be well to glance at the sculptured animal form to determine how far the accuracy of these authors is to be trusted, and how successful they have been in interpreting the much lauded "fidelity to nature of the mound sculptures." He then proceeds to say, "this carving differs markedly from any of the avian sculptures and probably was not intended to represent a bird at all. It more nearly resembles

if it can be said to resemble anything, a bat with the features very much distorted." It may be difficult to distinguish a bird from a bat, but if the reader will examine the cut and notice the tail turned up, wings folded, and the claws drawn up ready to strike, he will conclude that the authors of the "Ancient Monuments" analyzed the different parts of the figure better than does the author of "Animal Carvings." The eye and the appearance of horns on the distorted head they interpret as representing



Fig. 11.

those features of the owl, and they are not far from right. It should be said in the way of apology for these many mistakes that the criticism was based upon examination of the casts which were in the Smithsonian Institution, the original of the cuts having been sold out of the country. Still any one who knows the imperfect character of a cast and its failure to represent the expression which is hidden in the original, would wonder that the casts were used at all, especially as the article was intended to be especially critical.

4. There are certainly some mistakes which the authors of the "Ancient Monuments" have made, and we are grateful to Mr. Henshaw that he has corrected some of them.

The figure of the squirrel is an illustration (Fig. 12.) This, Squier and Davis have called the otter, but Mr. Henshaw, the squirrel and says, "It conveys in a general way a good idea of this animal; the characteris-



Fig. 12.

tic attitude of this little rodent, sitting up with its paws extended in front, being well displayed." The bird that was identified as a parrot has been correctly identified as a hawk; and the figure of which Squier and Davis were uncertain what bird it was intend-

ed to represent, he says correctly is a likeness of a wood-pecker, and is one of the best executed of the series of bird carvings.

IV. The manner in which the animals were represented by American art. This is an interesting part of the subject. We have considered the imitative skill, the animals which were imitated and the means by which they could be identified. We are now to consider the manner in which they are represented.

1. We are to notice that the imitation of the animal form was one object with the native artists.

2. The imitative objects were put to a practical use.

3. Where a useful object could be modeled into an imitative form, an animal figure was taken as a model in preference to any other.

4. A preference was given by the native artists to those *natural* objects which in themselves were imitative of animals, and the native art was used mainly in bringing out the resemblance and giving completeness to the figure.

5. The ease and convenience with which a natural object could be modeled into an animal figure was frequently the reason for giving it its particular shape.

6. Animal life was the object that ruled; even if the resemblance was vague and imperfect, the artist was content if this could be suggested, and was not always particular in giving perfect accuracy to the details.

7. This very fact, that animal figures were chosen as models, and that a vague and shadowy resemblance was sufficient to satisfy the native artist, shows that the religious sentiment was prevalent, and that these animal figures were fetichistic in their character.

These different points will be borne in mind as we proceed to give some specimens of native art. *These specimens are taken from all departments: mound builders' pipes, rock inscriptions, effigy mounds, Pueblo pottery, ornamentations on pottery and carved wooden figures. Other specimens might be found upon shell gorgets, painted blankets and skins, engraved billets of wood, and bark, and, in a few cases, in books and calendars which have been transmitted by native Indians. These specimens are all found among the wild, uncivilized tribes. There are animal figures in the idols of Mexico and Central America, but these are left out of the account at present.

*The sources from which we have drawn our illustrations are as follows: Annual Reports of the Ethnological Bureau, Contributions to the Smithsonian Institution, especially Dr. Rau's Monograph on Prehistoric Fishing, and S. Habel's Sculptures of Santa Lucia Cosumal Huapa.

We are also indebted to the Reports of Peabody Museum, the Antiquarian Society, the Davenport Academy of Science and many others.

Proc. of Davenport Academy, Vol. I, Plate IV, No. 11, p. 135.

Second Annual Report of Bureau of Ethnol. Fig. 647; also Proceedings of Davenport Academy, p. 120, plate II, Fig. 39, 824.

Eighth Annual Report of Peabody Museum, pp. 31, 33, 40 and 41, Nos. 7,786, 7,774, 7,717, 7,814, 7,718, 7,719, 7,818.

Ancient Pottery of Miss. Valley, by Wm. H. Holmes.

Sculptures of Santa Lucia Cosumal Huapa, in Guatamala, plates I, II, VI, VII.

We give a series of cuts to illustrate these points.

The first cut, (Fig. 13,) represents the bear; it is a pipe which was taken out of a mound in Muscatine County, Iowa, by some German farmers. The bear is represented with his mouth open



Fig. 13.

and the back thrown up in the attitude common to that animal. There are many other figures of the bear in the pipes and pottery. A pipe is held by the Davenport Society, in which the bear is represented with head turned as if looking over the shoulder, and the body crouch-

ing. This came from a mound near Toolesboro, Iowa. There were fourteen pipes reported at the same time. "They are all the so-called mound pipe pattern, some of them carved into effigies of birds and animals." This animal is also represented in pottery. There are some specimens in the National Museum at Washington, (Fig. 14), which might be taken for a bear, although there are some peculiarities about the images which would conflict with this idea. They are catalogued as "black-ware." One is described by Dr. W. J. Hoffman as having no particular use further than as an exhibition of skill in the working of clay. The bear as found in the emblematic mounds has often been described. The bear is also found in rock inscriptions. Fig. 15 is an animal which was inscribed upon a rock in a cave at West Salem.



Fig. 14.

Thus we have the four lines in which animal figures are found; carved pipes, pottery, emblematic mounds, inscribed rocks; all of them furnishing good imitations.

In reference to birds, the same thing is true; there are many

imitations of birds found in all the departments. The figures which we have already given show how thorough the imitations are in the pipes. The pottery of the mound builders and of the



Fig. 15.

Pueblos also contain many bird forms. One such may be seen in the cut, (Fig. 16), a bird on a pedestal. This is No. 39857 of the National Museum. The kind of bird represented is not certain.

The emblematic mound builders represented birds, but gener-

ally with the wings spread. (Figs. 17 and 18), yet there are a few cases where the bird is represented with folded wings, as in the case of the swan, (Fig. 19).*

The inscribed rocks also furnish specimens of birds, but more frequently with wings spread than folded. We may conclude then that the imitation was one object with the native artists, and

that the main reason for making a difference between the carved figures and those which were inscribed, or painted, or moulded in bass-relief, was because it was more convenient. It was not easy to represent the bird with the wings spread, in the pipes, while in the effigies and inscriptions, it was even easier to represent them so



Fig. 16.

than folded. There was, however, a tendency to imitate the birds according to their habits; this is illustrated by a specimen in the carving of wood from the Zunis; (Fig. 20.) this is taken from the Second Annual Report of the Bureau of Ethnology. It represents an object which was common among that people. The bird is placed upon a stick so that it may turn around as upon a swivel; the wings are attached to it so that they can be made to move up and down by pulling a string, in imitation of the bird in flight. These wooden images are carved and painted to represent birds such as they were accustomed to see daily.

There are many effigies of birds among the Pueblos moulded out of Pottery; some fifteen specimens are figured in

* See page 20. The swan is on a small scale, but the eagle will illustrate the size.

this report as belonging to the Zunis, and eight or ten as belonging to the Lagunas. Several specimens from the Tesuke, and from Santa Clara, twelve from the Cochiti tribe, and four from other localities.

Birds are frequently seen in the mound builders' pottery. In the Peabody Museum there are many jugs with the mouth moulded in the shape of a bird, and other vessels which have handles moulded in the shape of birds' heads or beaks.

The bird intended may be easily distinguished by the shape of the beak, or the eye, or head, and in these images we recognize the owl, duck, and other birds.

The Davenport Academy of Science also has a large collection of pottery in which birds and other animals are moulded. Some of the birds, according to the Report are made with pearls set into the head as eyes; these pearls had been perforated for beads be-

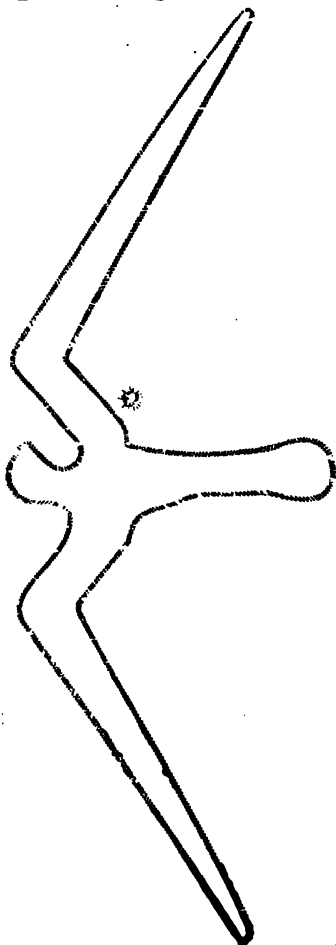


Fig. 17.

fore they were introduced into the head of the bird and present great skill and delicacy of manipulation, as the holes were drilled through the fragile structure of the pearls which were very small and delicate. The combined weight of the two being only [2.68 grains and the diameter only 4 mm.

There are many ornamented vases in the National Museum at



Fig. 18.



Fig. 19.

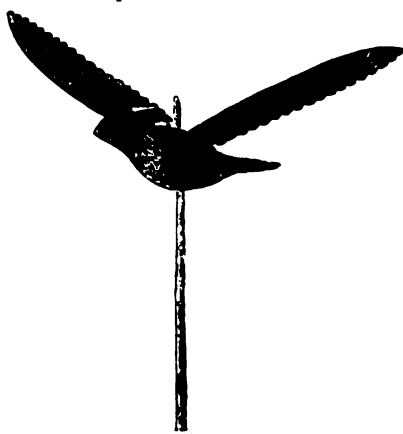


Fig. 20.

Washington, on which animals and birds are portrayed with much taste and beauty. A good specimen may be seen in Fig. 22, which represents a vase from the Zunis.



Fig. 22.

The decoration of this piece is distinguished chiefly by the presence of the elk or deer; attention is also called to the three figured zones or belts on the vase, with the arch enclosing an elk; the middle or narrower belt enclosing figures of birds

with a long crest feather. The scroll is frequently introduced in the ornamentations." The animals in these vases will be easily recognized, and possibly the birds might be recognized, were we familiar with the species common in that region. It will be noticed, however that there are symbolic marks on the animals and in the ornamentation, so that we cannot say that they were merely



Fig. 23.

imitative. There were several styles or types of ornaments among the Zunis, and there are conventional methods of depicting animals; but doubtless both came from a primitive symbolism. A simpler form or style of imitation may be seen in the following figures: (Figs. 23, 24 and 25,) these are in the American Museum of Natural History at New York.

They were furnished by Mr. Geo. Squier, and were taken from the guano in Chincha Islands, 32 feet below the surface. Mr. Squier considers them as "accurate representations of fishes actually found in Peruvian waters;" but Prof. Gill says "they are too conventional for determining the species." The reader will find some excellent remarks on the last point mentioned above, (No. 7),



Fig. 24.

1. Second Annual Report of Ethnological Bureau, p. 343, Fig. 361.

2. Pre-Historic Fishing in Europe and North America, p. 332.

in Cushing's Monograph on Zuni Fetiches. The discernment with which this author has written upon the subject, is in strong contrast with others who have only looked at the subject from



Fig. 25.

the modern stand point. He seems to have understood the religious significance of the objects and has said that the natural objects which resemble animals are more

nearly related to the native divinities than the conventional art forms; but that the accidental resemblances are motives, for these establish a relationship between the objects and the animals. We infer, also, from what he says, that native American art differs from modern art in that the conventional and the perfected art form was very likely to destroy the charm of the mystery. There was a mystery in the natural concretion or accidental fragment which had a resemblance to an animal; and the effort of the artist was to perpetuate this mystery and to keep up the relationship between the imitative image of the animal and the animal divinity. The useful articles, such as fish hooks, pottery vases and bottles, and even carved pipes, were supposed to have a charm about them and were given the imitative shape, that the charm might be more complete. The same is true with the effigy mounds and many other objects.

—c—

THE STUDY OF THE NAHUATL LANGUAGE.

Under the stimulus of peace and an enlightened administration, Mexico is throwing open her vast and varied territory to the capital and energy of the world. No nation is more interested in this than ourselves, her nearest neighbors, and all that pertains to her history, her geography and her ethnology has assumed redoubled importance for us.

Of her population, it may be roughly said that one-fifth is of pure white blood, two-fifths of mixed white—negro and Indian stocks—and two-fifths pure Indian. The latter are of various linguistic families, but it is true to-day, as it was in the period of the discovery, that of them all the Nahuatl speaking tribes are the most numerous and widely extended. They are found to-day in all the states (estados) which lie between the port of Vera Cruz and the Pacific Coast and along the latter northward to Sonora and with few interruptions south to Escuintla, in Guatemala. As early as the

thirteenth century this tongue had penetrated as far as the Gulf of Nicaragua, where there was a flourishing Aztec colony; it was the recognized trading language throughout Gautemala; mercenary troops had carried it early in the fourteenth century into the heart of Yucatan, and the learned Buschmann in his great work on the subject has followed its traces as far as the river Gila, and quite into the Utah or Shoshonee dialects of New Mexico, Arizona and Upper California.

According to the principles of linguistic science, we have a right to expect some peculiar merits in a language which had this power of extension and self-propagation. These characteristics usually belong to languages of structurally a high grade in comparison with those with which they are brought in contact, nor in this case is the presumption in error. The Nahuatl language turns out on examination to be one of the most highly organized on the American continent. Its phonetics are admirable, confessedly equalling those of the purest Castilian; its grammar is in accordance with simple and regular rules; its formative are distinguished from its material elements, and are even flecational in nature, and its lexicography is ample and varied.

The term *Nahuatl*, which means sonorous, well-sounding, was applied to it in very early times on account of its softness to the ear. Its modern synonyms are "Mexican" and "Aztec." The Mexican Antiquary, Orozco y Berra, has, indeed, criticised the application of the word *Nahuatl* in this wide sense, basing his objections on a passage from the *Historia* of Father Sahagun, where that learned writer confines the expression to one dialect of the general tongue. But with all due deference to this great authority, Nahuatl seems better than *Aztec*, for that was the tribal name of a very small though powerful segment of the stock; and better than *Mexican*, for that is a geographical adjective which includes the languages of the whole country.

The Nahuatl is not at all a difficult language for the European to learn; at least it is infinitely easier than, for instance, the Choctaw, the Cherokee or the Chipeway, in the United States, or its immediate neighbors, the Othomi or Tarascan. For this reason, and especially because it was so widely current, the Spanish missionaries paid a good deal of attention to it, and published in it a large number of works, chiefly devotional. In 1870 Dr. Berendt collected the names of 82 authors in it, and the list could now be increased to the even hundred, if not beyond.

Besides these religious works, which include, by the way, numerous collections of sermons, there is quite a body of Nahuatl literature of a general character. Thus we have a very compendious treatise on the manners and customs of the Mexicans, composed by Father Sahagun, the MS. of which is now in Madrid, and of which his published history is but an imperfect translation, as he himself says; several historical works by Ixtlilxochitl,

Chimalpahin and anonymous writers; native poetry to a limited extent; specimens of the ancient orations, called *huehuetlatolli*, and the like. Most of these are still in manuscript, and the last mentioned, *huehuetlatolli*, though printed in 1599, is so rare a volume that only two copies are known, both imperfect, one of which is in my library.

The greater number of these historical and literary works owe their preservation to the labors of the celebrated antiquary, the Chevalier Boturini, who devoted seven years to collecting them in Mexico, in the first half of the last century. His collection was sequestered by the Spanish government, and in part dispersed and lost, but in this century the unfortunate Irish peer, Lord Kingsborough, whose enormous work on Mexican Antiquities is familiar to every student of the subject, made strenuous efforts to gather together the remnants of the Boturini collection. He was in a measure successful, but less so than M. Aubin, a French gentleman who was a resident in Mexico between 1830 and 1840. This collector, with unwearied assiduity, tracked every article named by Boturini in his catalogue, and succeeded in securing many of them—just how many it is not possible to say, for M. Aubin, who is still living, an advanced octogenarian, in Paris, has many peculiarities, among others, that of not allowing a soul to look at his literary treasures. They are destined, however, to become a part of the great *Bibliothèque Nationale*: and therefore, without wishing to abbreviate in the slightest the days of such a worthy collector, we may be sure that these documents will at no distant date be accessible to students.

It is thus seen that the Nahuatl is a living language, spoken by perhaps half a million people; that it has a literature of considerable extent for an American language; that it is comparatively easy of acquisition; and that it presents structurally one of the highest types of American tongues. For these reasons it can be particularly recommended to those who would like to turn their attention to the many interesting problems presented by American linguistics. To aid any who may be fired by this laudable ambition, I will give a brief sketch of some of the most useful text-books, and add a few words about what other laborers in this vineyard are accomplishing.

Beginning with *Grammars*, the earliest written was that of Andre de Olmos, one of the first missionaries and a man of extraordinary linguistic talents. It was concluded in 1547, but was not printed until 1855, when it was published by the French government under the editorial supervision of M. Remi Simeon, one of the ablest living Nahuatl scholars. It can be ordered through any importing bookseller, and will cost the purchaser about \$3.50. As a grammar of that date, it is remarkably thorough, but it is not the best. This position must without hesitation be assigned to the grammar of Carochi, first printed in 1645, and edited by

Father Paredes in 1759. This is a most complete and satisfactory work. Unfortunately, it is scarce and dear. I paid \$15.00 for my copy in Paris, but the learned Mexican scholar, Dr. Antonio Penafiel, writes me that he is going to publish a new edition of it in that city. Numerous other grammars have been printed, but they are all decidedly inferior to these two. The latest issues in this direction have been efforts to teach the language on the "Ollendorf" system. In 1869 Sr. Faustino Chimalpopoca, a Mexican scholar of partly native blood, published in the City of Mexico an "Epitome, or Easy Method of Learning the Nahuatl Language." It is a little duodecimo of 124 pages, and, while it is a creditable effort to the author, it will not carry the learner far. A larger volume is that of Dario Julio Caballero, printed in Mexico in 1880 with the title, "Grammar of the Mexican Language According to the System of Ollendorff." It has a number of reading lessons in prose and verse, and well-selected vocabularies.

As to *Dictionaries*, we are still dependent on that of Alonzo de Molina, the second enlarged edition of which was printed at Mexico in 1577. Of course it is scarce and dear, a good copy being cheap at fifty dollars. But through the enlightened liberality of the devoted Americanist, Mr. Julius Platzman, of Leipzig, scholars can obtain a most accurate reprint of it published by that gentleman in 1880. The price in Leipzig is 50 marks—\$12.50. It is merely a reprint of the edition of 1571, without addition or correction, and contains about 13,000 Nahuatl words. But we may shortly look for a very much more valuable work in this direction from the hands of M. Remi Simeon, the president of the *Societe Americaine de France*, and whom I have already mentioned as the editor of Olmos' *Grammar*. He has been engaged for twenty-five years in preparing an exhaustive lexicon of the Nahuatl, and he writes me in a recent letter that it is now in press and will appear through the well-known Parisian publishing house of *Hachette & Cie*. It will contain over 25,000 words, besides many locutions. We may hail the appearance of this monument of industry as laying for all time a secure foundation for researches in Nahuatl philology. It is to be hoped that all the leading libraries of the United States will provide themselves with an early copy.

For *printed texts* on which the student may exercise his grammatical and lexical acquirements, we are not as well off as we should be, and very easily could be, were such publications properly encouraged. In the line of religious writings, a volume is issued by Paredes—the same whose grammar I have already mentioned—has long enjoyed a just celebrity. It is a small quarto of nearly 500 pages, with the title *Promptuario Manual Mexicano*, and was printed in Mexico in 1759. Most of it consists of sermons in Nahuatl, but the difficult passages are explained in Spanish, so the book is a very valuable aid for mastering the

idioms of the native tongue. It is, of course, rare, and a copy costs even more than the grammar. A few weeks ago I saw a copy in New York marked \$25.00, but that was a "fancy figure," as it can generally be picked up for about \$15.00. One or two of the sermons in the *Promptuario* have been published separately, with grammatical comments, within the last ten years, by Prof. Agustin de la Rosa, at Guadalajara, Mexico; but, like all the works of that finished Nahuatl scholar, they are extremely difficult to procure, as they were intended merely for the use of his classes in the seminary and not for general sale.

An ample and excellent text was issued in a handsome quarto volume at Milan in 1858-60, under the editorship of Professor Bernadino Biondelli. It was the *Evangeliarium, Epistolarium et Lectionarium Aztecum*, prepared by Father Sahagun in the sixteenth century, and never previously printed. It is composed of selections from the Bible in Nahuatl, with the vulgate translation in an adjoining column. The editor adds a useful preface and a comprehensive vocabulary, all in Latin. As Sahagun was perfectly acquainted with Nahuatl, we may accept his version of the vulgate as a correct mirror of the native language such as it was at the period of the conquest; though from the nature of his subject it was necessarily forced into the expression of ideas foreign to the native mind.

This last objection, which is a serious one, does not apply to a recent issue of the *Musco Nacional* of Mexico. That institution has lately completed the publication of a document known as the *Codex Chimalpopoca*, or "The Annals of Cuauhtitlan." It is a native composition of unknown authorship, of ancient date, and treats of the precolumbian history of the country. Hence it is in several respects a work of the first order of importance. It is extremely difficult to translate, and in many passages the text is probably more or less corrupt. What is worse, the latter part of the MS. in the hands of the *Musco Nacional* is said to be illegible, and the earlier part of the original text has been included in their publication. There is, however, two perfect copies of this *Codex* in the possession of M. Aubin, of Paris, and we may look forward to a complete publication of it in the future.

Another work of similar character and probably not less valuable is that known as "The Annals of Chimalpahin." A partial copy of these, also derived from the Aubin collection, where the original and complete MS. exists, is now in the hands of M. Simeon, who promises the publication of it as soon as his others labors will admit. These Annals begin with the year 50 of our era, which is interesting, but suggests some loose guessing on the part of their author.

It would not be just to close this brief sketch of modern Nahuatl studies without mentioning with particularity the zeal which a number of learned Mexicans have recently exhibited in the cul-

tivation of this beautiful and powerful tongue. For many years Senor Joaquin Garcia Icazbalceta has been engaged in collecting MS. and printed books in or relating to it. Many of these have been utilized with great advantage by his brother-in-law, Sr. Francisco Pimentel, in a standard work on the tongues of Mexico. The late Sr. Gumesindo Mendoza, director of the Museo Nacional, was a thorough Nahuatl scholar, and with the aid of Don Sanchez Solis, also deceased, gave an independent rendering of the Annals of Cuauhtitlin. The historian, Orozco y Berra, had studied the native language diligently, and the fruit of his resarches are seen on many pages of his great work on the ancient history of Mexico. Dr. Antonio Penafiel has very recently published a careful analysis of Nahuatl proper names with their hieroglyphics, and has in preparation a series of reprints and new publications bearing on the tongue. In Guadalajara, professor Agustin de la Rosa teaches, or until lately did teach, the old tongue in annual courses of lectures ; and in the City of Mexico, Professor Troncoso y Paso is a master of the idiom, and will, it is to be hoped, receive a government appointment for giving regular instruction in it. Other names might be mentioned, but these are sufficient to show that the scholars of our sister republic are not unmindful of the rich field offered to students in the investigation of this the ancient dominant tongue of their land.

Media, Pa.

DANIEL G. BRINTON, M. D.

Correspondence.

INDIAN BURIALS.

Editor American Antiquarian:

The Pawnees about whom I know most, bury their dead from a foot to sixteen inches under ground, and build a mound of dirt three to five feet over the grave. The burial ground is upon some high mound or bluff and some distance from the village but always within sight of it.

There is great ceremony in burying a chief or head chief. When one dies he is put into an Indian lodge where all the Indians of the tribe are allowed to take a final look at the revered dead. Solemnity is preserved everywhere, no laughter or gaiety is expressed, even the children are not allowed to play or enjoy themselves, and one passing through the village, were it not for the ponies, would think it deserted. The body is held in state usually about a day or a day and a half, then it is closely wrapped in a new red blanket and placed in a box which is furnished by the Government Agent, made of planed cottonwood timber. The box is much larger than a coffin, but all extra space is taken up by eagle feathers, bear claws, scalps, knives, revolvers, moccasins, and such other articles as are thrown in by the friends of the dead chief. Often a hundred or two dollars worth of Indian stuff is thrown into the grave and coffin, and not many years ago it was frequent to see two or three horses driven over the grave and shot down, but the advance of civilization has increased the value of their ponies so much that they feel unable to lose them, and then again the missionaries have taught them that the spirits of their horses do not accompany the spirit chief to the happy hunting ground. After the burial it is the duty of the squaw or squaws of the dead chief to go to the grave at sunrise or sundown to sing their death songs; this is kept up for three days, making in all six times the death songs are heard. They are a wailing, mostly in monotone and very pitiful to the ear. This is usually the full extent of the mourning. The grave is covered with old axes, lariats, pocket pins, grubbing hoes, and such rude instruments as are used by the squaws in raising their Indian maize. No foot board or headstone is seen with inscriptions thereon, to tell whose grave it may be, and in fact nothing that would indicate that he was anything but a brave. They are true to the old adage that "Six feet of earth make all men of one size."

The ceremony of burying a brave is not so elaborate. Instead

of so many visitors, only a few of the most intimate friends are wont to call, and but few go to the burial. I have known braves to die and be buried without a single brave attending the funeral. The dead is generally wrapped in a blanket, taken in a two-horse wagon to the grave and buried by old squaws without ceremony and without a coffin. The death songs are heard at sunrise and at sundown, however, for the three days following. Old squaws are the sextons and without a murmur they dig the graves and bury the dead. The braves and young squaws, if there be any present, stand about with dignified air, they utter not a word, shed no tear, nor offer a helping hand. When a young woman or child dies the funeral is attended only by women and young people, often the father not being present. Few presents, if any, are thrown into the grave and the mourning is of short duration. The burying of an old squaw is disgraceful. They are wrapped in an old blanket and buried; not even her own children and near relatives being present, and if it happens that she dies away from the village the grave is dug a few feet from the corpse and she is rolled in, and this ends it. Not even trouble is taken to remove her to the burial ground. There is a superstition among the Pawnees that if one death occurs in a lodge that others will follow in quick succession until the whole family is gone, for this reason no person is allowed to die within the walls of a Pawnee lodge, for as soon as the medicine men find there can be no cure for the patient he immediately orders it taken out and smothered, but should the patient die within, as sometimes occurs when patients die suddenly, the lodge is deserted at once, torn down and allowed to remain for some time exposed to the sun and weather then it is moved and erected on other ground to be used as a dwelling.

The Osages bury on top of the ground, building a covering of heavy stones to protect the body from buzzards and cayotes. Provision of all kinds to last nine days are placed with them, often their hunting dogs being killed and thrown with them. When an Osage chief dies a party of his bravest young warriors, ten or twelve in number, are sent on what is termed "Hair Party." In olden times it was a scalping party, but now that there are so many soldiers they have modified it so that instead of taking the scalp they only take the hair. The party is sent out without food with instructions to eat nothing until they return with hair. Often they are out a week without food. Now they attempt to buy the hair by offering one or more ponies, to be allowed to cut the hair from the head with a sharp knife. In 1879 a hair party of Osages took down the Simeroon river in search of hair; at that time Jno. McClaskey was running a small movable saw mill, cutting out lumber for the Pawnees. As soon as he saw them he knew their mission from their red war paint and took precaution to put his rifle within reach. They offered him three ponies for his hair; he would take it if they would allow him to cut it off, but this they would not do. They went off much out of patience as they had now been out five days without success. They had not gone far

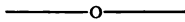
when they came up with a lone Pawnee, going to the agency with a load of lumber. Without warning, they pounced upon him and robbed him of his shining black braids. It came near causing war between the two tribes, but the difficulty was finally settled by their agents. I could relate other instances where they had either bought or robbed people of their hair but I relate this one only to illustrate how persistent they are in carrying out this one superstitious idea.

They are very superstitious in reference to deaths. Every death means something either good or bad. When they moved to the Indian Territory in 1875 they fixed their reservation on a small stream that emptied into the Simeroon and on the old Sac and Fox' trail. They were not fairly settled when one of their principal chiefs died; this was a bad omen, they had not located wisely. They concluded to move eighty miles north on the Arkansas river, where they are located to-day. The grave of the dead Osage is still there and the creek is named council creek, in honor of the big council held on its banks.

The Creeks and Chicasaws bury their dead barely under ground and then construct a low house of slab boards to protect it from vultures and wild beasts. They are in part civilized and consequently many of them receive christian burial. Although all Indians have an idea of the hereafter, yet they have no thought of hell. They believe in a bad spirit but they think it follows us only when alive and that after death all is happiness and peace.

G. WM. LILLIE, "Pawnee Bill."

Wellington, Kansas.



THE NATIONAL MUSEUM.

To the Editor American Antiquarian:

In the account of the year's work in anthropology, p. 370 of the AMERICAN ANTIQUARIAN, the account of the National Museum needs a little modifying. Anthropology as a whole is now covered perfectly in the collections of the Surgeon General's office and the National Museum under the direction of the Smithsonian Institution. Omitting the former, for the present, I will give you the status of the latter. Three separate departments of the Museum are thoroughly organized with a full corps of skilled workmen.

I. Arts and Industries, presided over by Mr. G. Brown Goode, Assistant Director of the Museum.

II. Ethnology, including all modern, savage and barbarous technique, under the care of Prof. Otis T. Mason.

III. Antiquities, at the head of which is the Nestor of American Archæologists, Dr. Charles Rau.

In each of these departments some arts have grown so strong as to stand alone and to be under special curators. Indeed it is contemplated to develop each important human industry in this direc-

tion until it can stand alone. Already we have in full operation:

Textiles and Tools, under Prof. Romyn Hitchcock.

Ceramics, under Mr. Wm. H. Holmes.

Fisheries and Fishing, under Mr. R. H. Earll.

Navigation, under Capt. Collins and Ensign Hayden.

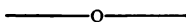
Models and Casts of Antiquities, under Mr. C. Mindeleff.

Historic Relics, Medals, Coins, under A. Howard Clark.

To these several collections are many contributors, among which the government surveys, Bureau of Ethnology, Army, Navy, Revenue, Marine, Signal Service, Consular Service stand preëminent. There is no lack of generosity on the part of private citizens, so that every American may now be proud of his National Museum.

Very truly yours,

O. T. MASON.



THE SMITHSONIAN INSTITUTION.

To the Editor American Antiquarian:

The subject of Anthropology is organized in the Museums of Washington as follows:

The Army Medical Museum receives all specimens relating to human anatomy, including crania, skeletons, and soft parts. These in addition to the Library of the Surgeon General's Office form the best material for the study of the American stand point of Biology. All objects of this character received by the Smithsonian Institution and National Museum are deposited in the collection of the Surgeon General. Those Anthropologists who wish to study this branch of the subject find at the Surgeon General's Office all the material that is needed in their work. Drs. Billings and Matthews have recently introduced the most refined apparatus, procured in Europe, for anthropometric measurements, and have been making experiments in the cubage of the skull by means of water; in the measurement of the time of various mental operations, and in composite photography.

All of the linguistic material of the National Museum and Smithsonian Institution is consigned to the Bureau of Ethnology. In the National Museum proper, the whole subject of comparative technology is now under control as follows:

All archæological material is placed under the direction of Dr. Charles Rau, Curator of the Department of Antiquities. The material under the charge of Dr. Rau is arranged in classes by form and function, and in each class the growth or evolution of that form and its geographical distribution are exhibited. So that if one would study knives, pipes, etc., it is only necessary to go to the vitrines containing those objects to learn the life history of that form, and localities in which it is found.

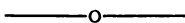
In the Department of Ethnology the subject of every human art is represented. While the primary concept is the same here as in

the Department of Antiquities, the subject of race—geographical distribution and their entire history—receive proper attention. In one hall type specimens of all human arts are exhibited, and whenever sufficient material of one type has accumulated to give that subject proper installation, as in the case of fishing, music, navigation, basketry, etc., a sufficient amount of the material is withdrawn to exhibit that subject in its totality. The same is true of any tribe of men. Whenever any material accumulates so as to give the proper exhibition of the life of any tribe, it is set apart for such exhibition.

Within the past year the Curator has gotten control of the entire collections of the Smithsonian Institutions, National Museum, and Bureau of Ethnology and many private contributions to the Museum.

The subject of arts and industries or the perfection of aboriginal arts in the industry of higher peoples has also received a great amount of attention. In the past year the collections of the Centennial Exhibition were available for this purpose, and many objects of great value were received at the New Orleans Centennial. Students of anthropology visiting the Museum will now find it in their power to study any branch of the subject, in any line which they wish to pursue, as the material has been arranged in cabinets for examination.

I am very truly yours,
O. T. MASON.



THE BUREAU OF ETHNOLOGY.

The Bureau of Ethnology is established by Congress for the purpose of pursuing ethnologic and archæologic studies among the North American Indians. The work has been from its commencement under the immediate charge of Major J. W. Powell as director. It may be conveniently considered under the heads of "Field work" and "Office work." An important division under the first head is that of mound explorations, which is under the charge of Prof. Cyrus Thomas, with an efficient corps of assistants. Since the organization of the division explorations have been made in Wisconsin, along both banks of the Mississippi, thence south to the Arkansas River, including parts of Illinois, Iowa, Missouri, Mississippi and Arkansas; also Eastern Tennessee, Northern Georgia, Western North Carolina and the Kanawha Valley of West Virginia. A very large number of articles, embracing every type found in the mounds, as well as instructive specimens obtained from Indian graves and on the sites of the old Indian villages, have been collected and deposited in the National Museum. All the specimens are properly labeled and numbered from the time when they are found in the field until they receive the catalogue number of the National Museum, in which, by law, all are deposited. A separate

catalogue gives the locality where each specimen was obtained, the name of the collector and the environment of each specimen.

Another division consists of explorations in the Southwest under the general direction of Mr. James Stevenson. The field of these investigations has been chiefly in Arizona and New Mexico among the ruined and modern pueblos and so-called cliff dwellings. An immense collection of pottery, stone implements and other objects illustrative of the life of the existing and former inhabitants of these regions has been made and classified. Surveys and models of the more important ruins have been prepared by Mr. Victor Mindeleff, and many photographs of interesting ruins and scenes have been obtained by Mr. J. K. Hillers. These models and photographs have been exhibited not only in the National Museum, but in the large expositions held at various places in the country.

Under the head of field work is also comprised linguistic and all other anthropologic researches in which all the persons connected with the Bureau are engaged. Their several publications, actually produced in the office at Washington, and therefore classed as office work, are based upon their previous researches in the field, supplemented by the study of all available material in literature and in museums. This mutual relation of field and office work is exemplified by the important contributions of Mr. Frank H. Cushing, who has for several years resided among the Zuñis, where he has made a profound and exhaustive study of their language, mythology, sociology and traditions. He has published several papers on these subjects, and is now preparing others.

An important, indeed fundamental, object of the Bureau from its establishment has been: first, to prepare a series of charts showing the habitat of all the tribes when first met by Europeans, and at subsequent eras; second, a dictionary of their synonymy which should refer their multiplied and confusing titles as given in literature and varying usage to a correct and systematic standard of nomenclature; third, a classification on a linguistic basis, of all the known Indians of North America. The linguistic classification precedes the whole of this work and the difficulties attending it have, at times, suspended its satisfactory progress until expeditions of research had ascertained facts required. These have been made in various parts of the country by Messrs. Dorsey, Gatschet, Henshaw, Curtin, Mrs. Erminnie Smith, Dr. Matthews and Dr. Hoffman, who have all assisted the personal work of the Director, Major Powell, in this endeavor, besides attending to their special branches of work hereinafter noted. The classification is now considered to be at least tentatively established, based upon which over 20,000 cards of synonymy have been prepared.

The special linguistic division confided to Rev. J. Owen Dorsey is that of the Siouan, more generally called the Dakotan, stock. He has been completing the dictionary and grammar of the Digiha (Ponca and Omaha) language and has also been engaged in a Kansas dictionary, and in carrying through the press a new edition of the Dakota dictionary of Rev. S. R. Riggs.

Mr. Albert S. Gatschet has been specially engaged in preparing a dictionary and grammar of the Klamath language.

Mrs. Erminnie A. Smith has been occupied upon the Iroquoian dialects.

Dr. Washington Matthews, U. S. A., is preparing a grammar and dictionary of the Navajo language.

Mr. Jeremiah Curtin has directed attention to the Muskoki or Creek language, and has taken vocabularies of the tribes in California and Oregon.

Colonel Garrick Mallery, besides other duties as Ethnologist, has been engaged in the study of pictographs and the sign language commenced by him when on active military service. Several comprehensive and illustrated papers upon these subjects, by him, have been published, and another is now in type. He has lately been assisted in the above mentioned work by Dr. W. J. Hoffman.

Mr. James C. Pilling is continuing to perfect the bibliography of North American languages, a preliminary edition of which for the use of collaborators only has been issued.

Mr. Charles C. Royce is now completing a historical atlas, giving a complete history of the official relations which have existed between the government of the United States and the various Indian tribes from the beginning of the Federal period to the present time.

Mr. Henry W. Henshaw, in addition to active work upon the synonymy before mentioned, is charged with a report upon Indian industries, which will explain the means of subsistence of the several tribes and trace their advance toward civilization.

Mr. William H. Holmes has supervised the illustrations of the publications of the Bureau, many of which he has personally prepared, and has general charge of the collections made under it, in connection with which charge he is honorary curator of pottery in the National Museum.

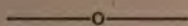
Dr. H. C. Yarrow is still engaged on a monograph upon the mortuary customs of the North American Indians and in preparing a paper on their medical practices.

The Bureau invites the assistance of students and specialists not immediately connected with it. Papers prepared by such contributors have been, and others will, in the future, be published. Among such papers already published are those of Dr. Robert Fletcher, U. S. A., on "Prehistoric trephining and cranial amulets;" that by Dr. Charles Rau entitled "Observations on cup-shaped and other lapidarian sculptures;" and by Mr. William H. Dall on "Masks, labrets and certain aboriginal customs."

The only regular publications of the Bureau yet provided for by law are the Annual Reports, three volumes of which have been issued. The fourth and fifth are in press. These large octavo volumes contain, not only the official report of the Director, but papers exhibiting original research and study in the line directed by the National Legislature. Among these are several important and original papers by the Director, Major Powell, whose researches

and collections in anthropology preceded by a number of years the establishment of the Bureau. The Reports so far issued are admirably printed and copiously illustrated, reflecting high credit, not only upon the Bureau and the public printer, but upon Congress, by which proper recognition has been given to what is now the most popular branch of science.

T. M.



MOUND EXPLORATIONS IN 1885, UNDER THE ETHNOLOGICAL BUREAU.

Editor American Antiquarian:

I send you a few notes from Mr. Emmert's preliminary report of his explorations under the Bureau of Ethnology in the western part of your State. I would send with them Mr. Middleton's very interesting notes of his survey of the groups alluded to, but these would not be understood without the plats and diagrams which accompany them, which have not yet received Mr. Middleton's final revision. I hope to send some of these as soon as they are completed and the finished drawings are made.

Mr. Emmert gives the following account of some mounds of the Flucke group which he excavated.

"This group which consists of twelve mounds is situated on the farm of Mr. Joseph Flucke two miles south of Prairie du Chien, and about one mile from the mouth of the Wisconsin river."

"Mound No. 1 on the diagram sent herewith [not given here] was of the usual low conical form, 65 feet in diameter and six feet high. This I excavated by first cutting a trench twelve feet wide through it from north to south. I found it composed of black sandy soil, without stratification except near the bottom, where I found thin streaks or layers of darker earth irregularly placed, of limited extent and not exceeding two inches in thickness. As I approached the center of the mound I noticed that the black earth began to dip below the natural surface of the ground. This I found was in consequence of an excavation in the original surface about twelve feet in diameter and a little over a foot in depth, going down to the yellow sand. In the center of this excavation, which is also the center of the mound, were three skeletons resting on the bottom but immediately under each was a thin layer of darker and very hard earth. The bones were very much decayed. Skeleton No. 1 was lying horizontally on the back, head east, elbows extended and hands turned towards the head. Near each hand was a single fine large obsidian spear head, remarkably symmetrical in form, and measuring nine inches in length. I also found near the head of this two spool-shaped copper ornaments one on each side rather below the jaw which induced me to believe they had been used as ear ornaments."

"Skeleton No. 2 was lying very near to No. 1 on the north side,

the bones much decayed. No specimens of any kind were found with it."

"Skeleton No. 3 was also stretched out horizontally with the head north-east. I found ashes and small pieces of charcoal around and on top of this skeleton, and the bones were burnt and charred from the head to the hips, in some places the ashes—which seemed to be nearly all on the top of, or beside the bones, not under them—formed a layer an inch thick or more. The skull was crushed to pieces and blackened and charred by the fire which had evidently been kindled on this skeleton after it was deposited here and after the flesh had been removed. In the layer of ashes covering the burned bones I found the copper beads which have been forwarded to you."

"I then worked over the remainder of the mound without finding anything more of interest. This mound like the rest of the group stands on the prairie forming the first bottom of the Mississippi river, about midway between the river and the bluff."

"I next opened mound No. 2 which stands on the same level 620 feet from No. 1. This was about five and a half feet high and sixty feet in diameter. Cutting a broad trench through it I found there was an excavation in the original surface like that in No. 1. In this excavation was a confused mass of bones in a close, compact heap, not more than two or three feet in length. I was somewhat surprised that no part of a skull was to be discovered, though among them a few teeth were found. These bones must have been deposited after the flesh had been removed."

"Mounds 3 and 4 of this group were explored with similar results."

"Three mounds of the so-called "Vilas group" near the confluence of the Wisconsin and the Mississippi rivers, were also explored, but in these, though having the excavations in the original surface of the ground, there were no other indications of burial. Possibly the bodies had been removed by those who deposited them here for a general burial at some other place."

"I then returned to the Flucke group and opened No. 5, a beautiful mound measuring sixty-eight feet in diameter and seven feet high. Through this I carried a trench fourteen feet wide. About the center was a funnel shaped mass of gravel, (largest at top) extending downward from the surface of the mound to the depth of three feet. In this gravel bed I found the crumbling bones of a small child. The bones were so thoroughly decayed that none could be removed, save one side of the skull, which had been preserved by some copper ornaments that lay against it. These copper ornaments consisted of a bracelet made of two strips twisted together—and a close coil of wire. This must have been an intrusive burial, as all the mound, except this funnel shaped mass of gravel consisted of black sandy soil."

"At the bottom of the mound were more human bones, but they were so far decayed that I was unable to determine whether they pertained to one or two skeletons. No relics of any kind were found with them. The original surface had been scooped out to

the depth of one foot. I noticed that these lower bones did not lie immediately on the bottom of the excavation but rested on a layer of black earth some three or four inches thick which was very hard and tough. The remainder of the mound was worked over without finding anything further of interest or any indications of other burials."

Yours Truly,

Washington, D. C. Oct. 15, '85.

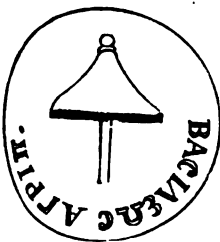
CYRUS THOMAS.

The Museum.

DEVOTED TO THE INTERESTS OF COLLECTORS, EDITED
BY E. A. BARDER.

ANTIQUITY OF THE UMBRELLA.

In his interesting notes on *Umbrellas*, in the July number of *The Museum* magazine, Mr. Henry Phillips, Jr., remarks: "Upon the coins of Herod Agrippa the younger appears something very like an umbrella, with the inscription '*Basileos Agrip*,' and on the reverse three ears of corn. Spanheim believes this to represent the tabernacle or tent of the Israelites, alluding to their feast of Pentecost. The ears of corn may refer also to the same feast, in which first fruits were offered."



We reproduce here the illustrations which accompany the article to which reference is made. The second engraving represents a Siamese coin of the present dynasty, showing the royal crown between two *parasols* of State. On the reverse is the figure of an elephant.

The umbrella was not only represented on coins, but also in ancient sculptures. On the side of a superb sarcophagus, found 55 feet beneath the surface of the ground by Gen'l di Cesnola, at Amathus, a Phœnician city of Cyprus, carved in large figures and in high relief, are two chariots, one of them containing two men and drawn by two horses. The attendant behind holds an *umbrella* over the head of the driver.



COIN OF SIAM. REDUCED.

This work of art, supposed to

be upwards of 2,500 years of age, may now be seen in the Metropolitan Museum of Art, New York City.

MINUTE SHELL BEADS.

In a collection of antiquities recently received from San Miguel Island, California, were numerous minute white discs, scarcely the size of an ordinary pin's head, with accurate central perforations. These were submitted to several eminent scientists who at first pronounced them segments of recent crinoidal branches or of some other radiate. A careful examination of a conglomerate mass of these objects, however, revealed their artificial origin. It is safe to



say that they are the smallest specimens of wrought shell beads ever discovered amongst aboriginal remains. The tiny perforations were made by delicate, three-sided, finely-pointed flint awls, many of which have recently been found in ancient graves on the California coast. The accompanying cut shows two of these awls and a string of the beads which have been cemented together by the decomposed sinew on which they were strung and the fatty excretions of the skin of the wearer.

COLLECTORS AND COLLECTIONS.

An industrious collector of Indian antiquities is Mr. Wm. W. Adams, of Mapleton, N. Y. The first specimen he procured was an interesting clay pipe which he found in February, 1884, in an Indian grave on the farm of E. P. Haskins, at Scipio, Cayuga county, N. Y. His collection of antiquities now numbers more than 4,000 specimens, including several fine pipes, one with a human face; catlinite pendants; about 1,200 shell and catlinite



beads, some of them *five inches in length*, besides a large number of other desirable things. The pipe first alluded to, and which is here figured, measures about six inches in length.

The front of the bowl represents the head and beak of a large bird. This pipe is one of the finest ever found in that section, and is of the curved or trumpet form so common in New York State.

A FINE collection of Lancaster county (Pa.) relics is owned by Prof. P. C. Hiller, of Conestoga, Pa. It consists of 9,000 specimens. Amongst the rarer examples are beads of bone and *amber*, ceremo-

nial badges, tablets with one to four perforations, slate tubes, sinkers, discoidal stones, heads of birds, animals and human beings and pipes of stone and clay.

PROF. D. B. BRUNNER, of Reading, Pa., has a collection of antiquities from Berks county, numbering over 6,000 pieces, including 10 ornaments, 23 pestles, 60 axes and 72 hammers.

MR. A. G. RICHMOND, of Canajoharie, N. Y., is the owner of one of the most extensive collections of aboriginal relics in that State. It would be impossible to do justice to this collection in the space at our command, but we may mention in particular a large and valuable series of curious and unique pipes of clay and stone; discoidal stones highly polished; valuable vases and stone images from ancient Mexico; groups of antiquities from ancient graves in California and ruined buildings in New Mexico, Utah and Arizona; a large number of unusually fine ceremonial ornaments of all known types; a superb stone axe weighing nearly ten pounds and measuring a foot in length; a human skull with stone arrow-heads imbedded in it; a mortar made from the vertebra of a whale; and last, but not least, a curious, old, Dutch stone-ware jug, with the date 1630, from an Indian grave.

RARITIES.

REV. W. M. BEAUCHAMP has found portions of *barbed* fish-hooks on prehistoric sites in New York State.

HON. R. S. ROBERTSON, of Fort Wayne, Ind., has in his possession a fine, large pipe, carved from a hard stone, in the form of a sitting bird. The bowl rises from the centre of the back. It was found in digging a drain on a farm near the site of an old Indian village in the south-western part of the county. The peculiarity of this pipe is the date, 1776, which has been scratched on the side, near the stem orifice, which passes through the tail.

NOTES.

EARLY European clay pipe bowls continue to be found amongst Indian remains in various sections of North America. One recently discovered in Montgomery county, N. Y., possessed a heel-stamp consisting of a circle enclosing the letters H G, beneath a crown. In British Columbia Mr. James Deans found amongst aboriginal remains, a portion of an old French pipe made of red clay.

REV. W. M. BEAUCHAMP reports that near Baldwinsville, N. Y., a white clay pipe was thrown out of a rat's hole at the base of a cellar wall in an old farm house. The shallow bowl is grooved inside, dotted without, and ornamented with oak leaves and acorns in relief. The inscription on the stem is "L. Fiolet, St. Omer,

Brevet, S. C. D. G." It was probably dropped by a mason when the walls of the house were being laid.

A CORRESPONDENT calls attention to the existence of a large area of territory lying south-west of Petersburg, Ill., and extending from the mouth of the Sangamon river to that of the Illinois, in which are vast numbers of artificial mounds which have never been explored.

[Written for The Museum.]

THE INDIANS OF PUGET SOUND, WASH. TER.

UTENSILS FOR EATING AND DRINKING.

PLATES.


These are of wood, and in general are somewhat like a shallow wooden tray, from ten to twelve inches wide, an inch and a quarter to two inches deep, and a foot and a half or two feet long. For feasts, however, they are much longer, the longest regular one which I have seen being about six feet. I once, however, saw a rough one about twenty-four feet long filled with food and set before a row of people. I have also seen them made of six inch boards, twelve feet long, nailed together somewhat on the style of a pig's trough, and full of food. When all these fail, however, a mat will suffice, on which they lay their food. Their

DISHES

are deeper than their plates and generally narrower, and made both of wood and horn. Generally the wooden ones are three or four inches deep, six or seven inches wide and from six inches to four feet long. They are dug out of the wood. These are used fully as much for holding fish and seal oil as for food. Dishes are also imported from those Indians who live in the mountains, made from the horn of the mountain sheep, which are about six inches long, seven wide and three deep. They, as well as many of the wooden ones, are often carved with various rough figures on the outside. Those which come from British Columbia are by far the best made, some of the wooden ones being inlaid with shells. I have one such which is a foot long and nine inches wide. I have found a solitary stone dish. It is in the shape of a quarter of a sphere, six inches in diameter.

SPOONS

were made both of wood and the horns of cattle, the latter being preferred as stronger. These, however, were not attainable by the Sound Indians previous to the introduction of cattle by the whites, except as a few from the horn of the mountain sheep were obtained from the Indians of British Columbia. The bowl of the spoon is



usually five or six inches long, three or four wide and from three-fourths of an inch to an inch deep. The handles are commonly three or four inches long, but occasionally only an inch or two. The handle sometimes terminates in a small head. Smaller spoons are made for children. It is not always, however, that these large spoons are put into the mouth. They simply raise them full of soup or other food to their mouths, and then with a small stick two or three inches long and about as large as a pencil, they poke the food within. Greasy food, however, needed

NAPKINS,

and they were not devoid of this article of civilized life. They were made of cedar bark, beaten fine, and tied into small bunches about two feet long, and were used to wipe both mouth and hands. At one time after a feast I saw two men stand, one at each end of the row of perhaps thirty men who had been eating, stretch a piece of calico forty feet or more long, whirl it from behind the men over their heads in front of them, when all wiped their hands and mouths at once, after which it was whirled back again.

WATER-BUCKETS.

These were made of wood and looked much like a box, or cube. They are scarce now. Those which I have seen were about eight inches square, with a hole in the centre at the top, into which the water was poured, and another one at one corner, out of which it was poured. The four sides were made of a single board. Where a corner was to be, a small part was mitred out on both the inside and out, and then steamed so as to bend square. It is a difficult job to cut the mitres at the three corners so that when bent they will be water-tight. It is as difficult to join the two ends of this board together at the fourth corner, and fasten them with wooden pegs so as to be water tight, and also fasten on the top and bottom in the same way so that these will also be water tight.

WATER BASKETS

are made of roots and grass. They are sewed through and through, each round being thoroughly sewed to the one beneath it. These have no cover, and are more convenient for some things than the buckets, as juicy berries can easily be put into them, and water can be warmed in them by heating stones and putting them into the water; but the buckets excluded the dirt and the water was much less likely to be spilled from them.

M. EELLS.

[Written for The Museum.]

HOW THE WHULLE-MOOCH GOT FIRE.

Over thirty years ago, while collecting the legendary lore of the Whullemooch, the national name of the various tribes who live on the north-western coast of Washington Territory, the adjoining ones of British Columbia and the south-western end of Van-

couver Island, I found many a curious story, and amongst them the following, which I send, believing that one of these funny old legends now and again would be highly amusing to your young readers at least, if not to the older ones.

THE LEGEND.

"The old folks tell us," said the old man from whom I had this story, "that very long ago the Whullemooch (dwellers on Whull, Puget Sound, W. T.) had no fire. All their food was eaten raw, their evenings were dull and cheerless—without fire and without light. One day while a number of these people were seated on the grass having a meal of raw flesh, a pretty bird with a shining tail came and hovered around them. After admiring its beautiful plumage, some one said, 'Pretty bird, what do you want? Pretty bird, where do you come from?' 'I came,' replied the bird, 'from a beautiful country far away, bringing you all the blessings of Hieuc (fire). That which you see about my tail is fire. I have come to give it to the children of the Whullemooch conditionally. First you must, in order to value it, earn it. Again, no one who has been guilty of a bad deed or of a mean action need try for it. To-day get ready, each of you, some Chummuch (pitch pine). To-morrow morning I shall be here with you.' When it came next morning it said, 'Have all of you got some chummuch?' 'Yes,' said all. 'I go,' said the bird, 'and whosoever catches me and puts his chummuch on my tail shall obtain a blessing, a something whereby to warm himself or herself, cook his food and do many a service to himself and to the children of the Whullemooch for ever. I go.' It went; every man and woman, boy and girl of the tribe followed helter-skelter, some laughing, some shouting, others in their heedless haste fell over rocks into water holes, got torn and scratched by bushes and thorns. Some who lacked perseverance turned back and went home, saying anything so beset with trouble and danger was not worth the trying for. All of the hunters were getting tired and hungry, when one of the men came near the bird and tried to catch it, but the bird eluded his grasp, saying, 'You can never get the prize: you are too selfish. You don't care for any one, whether sick or hungry, so long as you are right yourself.' With that away flew the bird and another man took up the chase. Hearing what was said to the other, he changed his tactics, saying, 'Pretty birdie, let me catch you; I never did anything bad or mean. If ever I saw any one hungry or thirsty I gave them silthtun (food and drink) or if I could I gave them a skin or a blanket.' 'All you say is good, but in one point you fail: You stole your neighbor's wife by flattery.' This saying, away went the bird, a number still following. Passing a woman nursing a sick old man, she said, 'Pretty bird, I cannot follow you; won't you come to me and give me your hieuc?' 'What good have you done,' said the bird, 'that you should get it?' 'I have done nothing but what was my duty always to do,' replied the woman. 'Good woman,' said the bird, 'you are always doing good, thinking it only your duty. Bring your wood, put it on my tail and take the fire. It is justly yours.'

When the wood was laid on the bird's tail it blazed up. All the others brought their chummuch and got fire from her. From then until now we have never been without fire. We took care of it because we found the good of it. So, Nay Minnay (my child), that is how the Whullemooch got their fire." "Nis Tatuja" (my father), said I, "what became of the bird?" "After that it flew away and was never again seen." JAMES DEANS.

[Written for The Museum.]

THE STORY OF A BROKEN STONE.

Where a great gravel bank was being carted away, I had been lingering for days, on the watch for broken stones. Ever and anon a split pebble would roll from the bank, but this was not what I wanted. Frost is a good stone breaker, but does not break them as I required for the purpose of a startling demonstration: none other than that man was older than the time when this great bed of gravel came down from the river valley beyond to the broad plain where we now find it.

Now, so far as broken stones are concerned, it may be said that natural agencies can break them into innumerable shapes, which is very true; and yet there are those which have been shaped by breaking from them, here and there a piece, in a manner beyond the known powers of nature; and so we are led to consider the next known agency ever brought to bear on stones—that of man's skill.

The one prominent difference between a naturally and an artificially broken stone is this: that when man undertook to break a pebble it was to alter its shape and convert it into something better adapted to his uses than any chance splitting or detaching of a single chip would render any stone. Hence, such stones have invariably many pieces detached, and each flake removed bore a direct relation to those nearest to it, and the ultimate result was a pebble or fragment of rock with little or none of its original surface remaining, and such an altered stone possesses either a sharp point or cutting edge, or both. The accompanying illustration more clearly expresses my meaning.

I had been long looking for such an object and at last one came to light. Do not think it discouraging to have to search for several days for a single broken stone. There is no royal road to archaeological knowledge, and particularly if the student has a desire to learn something of that vague creature—palæolithic, or most ancient of stone-age man—he must be willing to labor long and fortify himself against faint-heartedness. Such rudely-shaped stones have been found; many more will be found, and this is the wondrous story that they tell:

In that distant long ago, when our climate was much like that of Greenland, and when the mastodon, reindeer, moose and probably

musk-ox roamed through our forests, and when the walrus sported in the icy waters of our sea-coast, the valley of the present Delaware river, from a little north of the head of tide water to the fountain head of the stream, and far beyond, was covered with a mighty field of ice known as a glacier, or, more strictly, a combination of them, forming an ice sheet. This ice, like water, but very slowly, moved southward and oceanward to a certain line across the country, and there, after remaining an undetermined period, began slowly to melt away. In its onward course it pushed before it and carried in its mass an enormous amount of fragments of every rock exposed to its resistless progress; and where the frozen flood at last stood fast there was accumulated a vast ridge of clay, sand, pebbles and boulders heaped promiscuously together. This ridge is known to geologists as the "terminal moraine."

Now, as the great ice-sheet melted, there was, of course, an enormously flooded river, which flowed many feet above the level of the stream to-day. The melting of a single winter's accumulation of snow often brings us a freshet twenty feet or more above the high-water mark; so, remembering this, it is easy to see how the accumulation of centuries of snow and ice, which every winter was something in excess of the summer's thawing, should cause and continue a flood far greater than any known in historic times.



At present when the river "breaks up," as it is called, in March or April, there is always a vast volume of muddy waters rushing toward the sea, and the loose cakes of ice enclose many a pebble, and even large stones, so that a stone that last autumn was lying in some mountain brook an hundred or more miles from sea, may now, a few months later, be deeply buried in the ooze of the Atlantic. Precisely the same thing took place when there were glacial conditions, but on a far larger scale; and the rocks and sand brought down from the terminal moraine, of which I spoke, were carried to the head of tide water, and there, meeting with quiet waters, the onward rush was checked and the great bulk of the transported material was deposited. For nearly fifty miles it came

through a wooded valley and often animals were caught in the flood and hurried down the stream in the same manner as were the sand and boulders. How do we know this? Simply because we find their bones in the gravels, and we know that there was a vast tract of heavily timbered, habitable land skirting the river at that time, and extending far out beyond the present line of our sea-coast.

I think it is now clear how our northern rivers came to have gravel in their beds, and why bluffs of the same form their banks in many places.

Bringing together our several facts, we have, first, the rudely broken stones, and secondly, the bones of animals known only to cold climates. These are mingled together, and we rightly infer that these animals lived at the time when the gravel was being deposited, and as man broke the stones I have mentioned, he too, existed so long ago.

This may seem a little startling, but the most competent judges, both mineralogists and archæologists, declare that no known force in nature could have broken these stones as we find them, and so they have indeed a wonderful history: telling of man at a time when the climate of Pennsylvania was an arctic one, and that state was peopled by a race clearly similar to modern Eskimos, and where the city of Philadelphia now stands hunted the reindeer, the seal and the walrus, and lived, when on shore, in terror of the mastodon, then the mightiest of beasts.

CHARLES C. ABBOTT, M. D.

RECENT PUBLICATIONS.

Bulletin of the Minnesota Academy of Natural Sciences, Minneapolis, Minn., 1880-1882.

Amongst other papers it contains one entitled "Whence came the different species or varieties of man," by A. E. Johnson; also "Notes on some pieces of pottery and native alum from White Fish Lake," by C. W. Hall, and a Report of the section of Mineralogy, by Prof. N. H. Winchell, in which are presented some interesting facts about Catlinite or *opwagonite*, used by the Indians for making pipes.—*Minneapolis*, 1895.

The Smithsonian Report for 1883, recently issued, contains a resumé of Anthropological literature for that year, by Prof. Otis T. Mason, besides a large amount of other matter of archæological interest.

E. A. B.

Editorial.

ARE THE DAVENPORT TABLETS FRAUDS?

The discussion over these tablets has begun afresh and does not now seem likely to cease until the mystery about them is cleared up. These tablets were first discovered in a mound near Davenport. They consist of two slabs of coal slate, one of them 8 or 10 inches wide and 12 inches long, inscribed on both sides; the other is inscribed only on one side and is smaller, being 7 inches on each side and having a thickness of $\frac{5}{8}$ of an inch. The larger stone contains what is called the "cremation scene" on one side and the "hunting scene" on the other. The smaller contains what is called the Calendar.

They were discovered on the evening of January 10, 1877. The following are the circumstances of the discovery as narrated by Rev. Mr. Gass. Particular attention is called to the details, for in the description we shall get evidence that deception has been practiced and that "a plant" has been perpetrated. We shall use the language of the explorer, for though he does not seem to have suspected anything, this is the evidence we depend upon. His language is simple and unstudied and gives every evidence of honesty, but we read between the lines. He says,¹ "On the 10th of January I commenced work, assisted by Messrs. Willrodt and Stoltzmann, aided also by five other men, whose curiosity attracted them to the spot. Commencing on the north side of the mound, about 15 feet north-west of the grave A, and, as we afterward found, about 6 feet from the gravel B. We made an opening several feet in diameter. Five or six inches below the surface we came upon a shell layer (c), 1 or 2 inches in thickness, which sloped downward toward the south-east, until at a distance of 4 or 5 feet it reached the depth of 2 feet, or rather more, from the surface. Between the surface and this first layer of shells, a number of human bones were found, *scattered through the soil*; also, a *number of stones*, which, as was afterwards observed, were more numerous *over the middle* of the grave B. Associated with these bones, which, like those on the other side of the mound, were doubtless of modern times, we found a few glass beads and *fragments of a brass ring*. This layer of shells rested upon a stratum of earth from 12 to 15 inches in thickness, and beneath this was a second layer of shells (d). This layer was from 3 to 4 inches

¹ Proc. Dav. Acad. Sc. Vol. II, Part I, p. 95.

thick and in a *sloping position* nearly parallel with the upper layer. These indications caused us to continue our excavation in this direction, and so we reached the northwest corner of grave B. Here the shell layer was 5 inches thick. Below this layer was a stratum of *loose black soil* or vegetable mould of 18 or 20 inches, resting on the firm, undisturbed clay. In this soil were discovered fragments of human bones, and *small pieces of coal slate or bituminous shale*. These circumstances *arrested particular attention*, and caused me to proceed with more caution, until soon after,—about *five o'clock in the afternoon*,—we discovered the two inscribed tablets of coal slate, which, with other relics from the mound, are now in the Museum of the Academy. The two tablets were lying close together on the hard clay, in the northwest corner of the grave, about $5\frac{1}{2}$ feet below the surface of the mound, the larger one to the southward and the smaller one north of it (f).



Fig. 1.

The smaller one is engraved on one side only, and the larger on both sides. The larger one was lying with that side upward which was somewhat injured by a stroke of the spade, and the smaller with the engraved side upward. Both were closely encircled by a single row of limestones. They were covered on both sides with clay, on removal of which the markings were for the first time discovered. *A number of fragments of the coal slate lay in the immediate vicinity of the tablets.* It should be remarked that I did not leave the mound after penetrating through the frost until the tablets were discovered and taken from their resting place with my own hands."

We have put in italics the clauses which indicate the point which we have in mind. It will be noticed (1) that the strata of earth and shells above the grave were in a *sloping position*; (2) that fragments of a brass ring, small fragments of human bones, small pieces of *coal slate* were scattered through the loose, black soil and (3) that over the middle of the grave B were a number of stones. It will be noticed also (4) that *coal slate* lay in the immediate vicinity of the tablets. The same facts are shown in the cut which was drawn to illustrate the situation of the tablets and the layer of stones and shells above, but which should be modified so as to correspond with the description and make the stones more numerous over the grave B. The point that we make is this; the language of the writer unwittingly shows that the grave B had been dug into and the tablets placed at the bottom of it; the fragments of the coal slate slab being scattered upon the clay and a few fragments of it falling in with the soil which was thrown back. Stones were also

thrown into the middle of the grave. These circumstances escaped the attention of the excavators as it must have been nearly dark before they reached the tablets. It should be said that it was a double mound or a mound with two graves, and that the excavation of grave A was late in the year 1874, two years preceding this. The discoveries made at that time were somewhat remarkable, and the mound received especial attention on that account. This excavation was made also by Rev. Mr. Gass assisted by W. Englebrecht, E. Bougelt and H. Decker, who were at that time theological students. "The excavations commenced on the south side of the mound. The condition of this part of the mound and grave was as follows: "At the depth of one foot we found a scattered layer of limestone (a), under which was a stratum

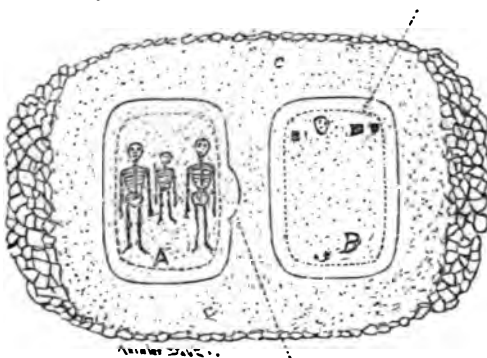


Fig. 2.

of earth about one foot thick. At the southern side, $1\frac{1}{2}$ feet from the surface, two skeletons (b). With the bones were a fire steel, a common clay pipe, a number of shell and glass beads and a silver earring." "Immediately beneath the skeletons was found a thin layer of river shells (c). The layer of shells rested upon a stratum of earth 12 inches in depth, under which we found a second bed of shells (d). "This sloped more abruptly to the northward which induced us to proceed in that direction until we reached what proved to be the south side of the grave A. Here at the depth of 2 feet below the second shell bed and about $5\frac{1}{2}$ feet below the surface, were discovered three skeletons; two of adults and the third that of a child *lying in a horizontal position* on the hard clay. The small skeleton was lying between the two larger ones. See Fig. 2.

"Immediately in contact with the bones of the child's skeleton were a large number of copper beads (see Fig. 3). About 3 inches above the southernmost of the two larger skeletons, and near the right shoulder, were discovered two copper axes lying side by side with the sharp edges toward the south. Near the northernmost skeleton were found three copper axes in the same relative position, except that they were about two feet above the bottom of the grave and immediately beneath the lower layer of shells. Nos. 1 and 2 were lying side by side, with the sharp edge toward the south, and No. 4 lying across them with the edge westward. All the axes had been



Fig. 3.

wrapped in cloth, which was more or less imperfectly preserved. A few of the bones of the child were of a greenish color, quite well preserved, probably by the action of the copper, while the rest of them as well as those of the other skeletons, crumbled in pieces as soon as removed. Just north of the northernmost large skeleton, and in a small cavity (c) excavated at the north side of the grave, were found the following articles: 1st, a number of small red stones arranged in the form of a star, about 3 inches in diameter; 2d, two carved stone pipes, one having the form of the ground hog, and the other a plain one; 3d, several canine teeth of the bear, etc.; 4th, one arrow-head; 5th, one large broken pot with bones of the turtle adhering to the inside of the fragments; 6th, two pieces of galena; 7th, a lump of yellow ochre."

In the cut, (Fig. 1.), the grave A is placed in the relative position to the grave B, and the shape of the double mound is given; but the description of this grave as given by the same gentlemen in the First Annual Report does not correspond with the picture here presented. In this description and the cut which accompanies it, (See Vol. I, Pl. II, Fig. 3), the arch caused by the layers of shell, was not broken down as it was in the grave B; though it appears so in this cut. We have two descriptions of the grave A; one made to the Society by Mr. Gass at the time of its opening, but corrected and put in shape by Dr. Farquharson; the other given by Rev. Mr. Gass after the discovery of the tablet, but unconsciously conforming to the peculiarities of the second grave.

There is mention here of the *sloping* of the layers of shells in the grave A, while in the first description given by Dr. Farquharson two years before the discovery of the tablets, this is expressly stated, "there were no layers of stones nor of shells," and Dr. Farquharson makes the comment there, that the descriptions of Rev. Mr. Gass, the explorer says, "the outer and inner arrangements were quite similar to the first (referring to a mound previously explored-- mound No. 1), but his description shows that it was not, no layer of stones, nor of shells, being mentioned."

Mr. Gass further says on this point: "The two shell layers over grave B, were united over the middle of the mound and formed a continuous layer, with the shells in the southern part, showing that both of the graves were covered at the same time. These layers were lowest immediately over each grave; they extended about two or three feet beyond the grave in every direction terminating in a border of stones, fitted closely together and forming on the north and south sides a layer about two feet in width, and on the east and west sides consisting of only a single row."

This may be the correct account for we need to consider that it does not quite correspond with the description given at first, when grave A was excavated.

There is an important point in this connection. The description given by Dr. Farquharson conveys the idea that there was an arch over the body in grave A and the cut conveys the same idea. It should be said that nearly all the mounds which have been ex-

cavated in this vicinity present about the same general characteristics. They are constructed in layers; the layers always in an arched shape. At least, the cuts which are given by the Davenport Academy all indicate this. Eight of the cuts contained in the First Report show the arch, and only one shows a mound without an arch. Subsequent explorations confirm the same point. We present a cut taken from the Second Report which illustrates this. This is a mound near Moline, described by Dr. Farquharson in Oct., 1878, nearly two years after the discovery of the tablet. These layers are of clay but they illustrate the shape, See Fig. 4.



Fig. 4.

The layers of this mound were composed of vegetable soil [a], of loose earth [b], slightly burned clay [c], hard burned clay [d], friable earth [e], layers of hard tramped clay [f], and intruded burial [x].

The breaking down of the arch in grave B is shown by the cut (Fig. 1), but the cuts furnished by the Society, of the same mound, at the time of the first excavation indicates that this depression should be confined to the grave B. At any rate, the case is an exceptional one, for nearly all the mounds are arched. The description of grave B conveys the impression that it had been disturbed while that given of grave A at the time of its opening, conveys no such impression.



Fig. 5.

fragments of pottery and yellow pigment."

The contents of the two graves are in contrast as well as the condition in which they were found. The contents of this grave B are as follows: 1st, the tablets taken out of the northwest corner; 2d, certain articles which were taken out by *some intruders* who entered the excavation after the finding of the tablets; these were as follows: some crystals of dog tooth spar, flakes of selemite and an arrow-head; 3d, some articles taken out by Mr. Gass in a subsequent exploration; these consisted of *parts of skeletons scattered about* without any order at the south side of grave B, 2½ feet east of the west end, a copper axe, No. 21, (See Fig. 5.) and 2 feet further east, on the same side of the grave, a few copper beads,

"Each grave was about 6 feet wide and 9 to 10 feet long, and excavated to a depth of $2\frac{1}{2}$ feet below the natural surface." We can judge from this how easy it was to have placed the tablets at the bottom of the grave and not disturb the relics, especially as the relics were very near the bottom at the south side of the grave. Our conclusion is that the language of the person who describes the "finds" indicates that a "plant" had taken place. It shows that grave B had been disturbed and that the skeletons which probably were in this grave in the same relative positions that they were in grave A, were thrown into confusion by the intruders; but that the relics which were in the corners of the graves were not discovered.

The character of the tablets themselves confirms this supposition. We quote from Dr. Farquharson's description of them: "The material of the tablets is the bituminous shale which is abundantly found in the coal regions and crops out in various places in this *vicinity*, notably on Rock River. * * As found, the stone was *split into two parts* by the separation of the lines of cleavage, and the upper half (the cremation scene) was unfortunately broken also by the blow of the spade, which revealed its existence in the soft earth where it rested." * Dr. Farquharson says, "An examination of the surface of the stone showing the original marks of polishing or smoothing, would seem to indicate that they *had not weathered much*."

A description of the sacrificial scene may be interesting at this point. In the lower part of the tablet as a central object is a mound; on the mound is a structure which was probably intended to represent an altar; above the altar are flames and smoke. Around the mound are 14 singular looking figures, which were probably intended to represent human beings, (mound builders,) they all have hold of hands like a company of children playing "ring around the rosy." In front of this line of (mound builders) are three figures lying on their backs; two of them men, one woman, judging from the drawing. These human figures are unlike those in most inscriptions, at least they lack the conventional character which is usually presented by native drawings. No mound builders' relics and no ancient inscriptions, so far as we know, contain any such figures.

The singular thing about the sacrificial scene is that the mound has already been built, and the bodies buried; the altar is built on top of the mound and the fire burning above it, yet the bodies which are supposed to be buried are seen lying around loose outside. The altars are generally placed at the base, and the mound built over them, the bodies buried or burned before the mound is erected. Mr. Seyffarth says that "the fires are lighted on a *hill*; the top of the hill is encompassed with a stone wall probably forming the altar or the inclosure of that temple;" (artificial hill!) Above the mound altar are the figures of the heavenly bodies, the sun to the right and the moon to the left with little dots to represent stars between. The sun is made with two circles with rays projecting from the outer circle. The moon has a face in it (man

in the moon) according to the common *modern* notion. This is the reverse of what is common among the ancient races; for everywhere in *prehistoric* American Art, the *sun* has the face in it and not the moon. These slight discrepancies in the scene have not been noticed, or at least, have not been spoken of in any published account, but they are important. Above the sun and moon and the heavenly bodies are two arcs resembling the rainbow in shape, formed by three curved lines which look very much as if they had been *cut by a knife*.* Above these arcs or "heavenly horizons" are hieroglyphic figures which fill out the corners of the stone, probably representing the vast, unknown world which lies beyond our sky. The characters which are included within the belts or arcs and above

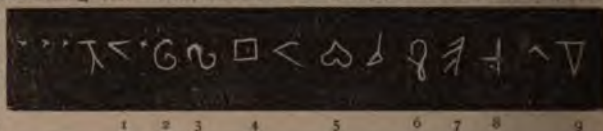


Fig. 6.

them present great variety of forms. Among them we recognize angles, [No. 1;] partial circles, [No. 2;] scrolls, [No. 3;] squares, [No. 4;] a heart, [No. 5;] the figure 8, [No. 6;] the branch, [No. 7;] the letter F, [No. 8;] the Greek Delta, [No. 9;] in Fig. 6.

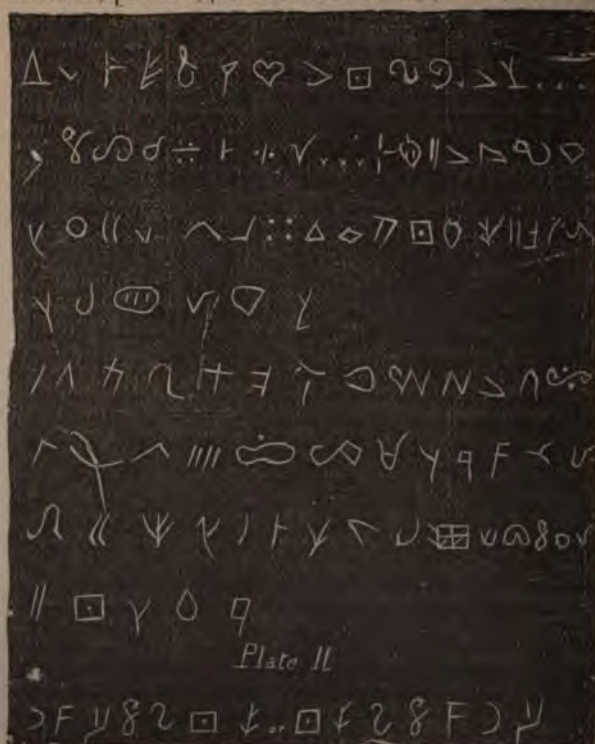


Plate II

Fig. 7.

*The lines on the calendar stone look as if they were made by a compass.

The hieroglyphics in the corners of the tablets are quite confused in their arrangement, yet there seems to have been an attempt to make two lines of them which should correspond with the lines of the arcs below. In these lines, and in the belts or arcs below them, the figures or characters are repeated.

Dr. Farquharson has given a list of these characters which are repeated. We give a list of them, but in an order of our own. See the cut (Fig. 8.)

1	repeated 4 times in the 4 arcs or lines.	
2	" 7 " " 4 " "	
3	" 4 " " 4 " "	
4	" 3 " " 3 " "	
5	" 4 " " 4 " "	
6	" 2 " " 2 " "	
7	" 3 " " 3 " "	
8	" 4 " " 4 " "	
9	" 3 " " 3 " "	

Fig. 8. The scroll is repeated several times, but in the different arcs, and so of some of the other characters. This would indicate that the party fabricating the inscriptions ran out of characters and was obliged to repeat the same characters several times as he made the different lines. The variation in the characters as repeated would indicate this. This variation can be seen in the long column of figures which are given by Prof. Campbell, (See Fig. 9.) who has undertaken to identify certain phonetic letters in these characters and who has placed all of the same or similar form together and then drawn the comparison between them and the Hittite alphabet.

In reference to the number of characters we quote what Dr. Farquharson has said; "counting the total number of figures, I make 98; 24 in one line, 20 in the other, and 54 above the lines; deducting 24 repetitions, there remains 74 separate characters."

Prof. Campbell, however, makes more than this as may be seen from Fig. 7, which is taken from his article, and which con-

tains all the characters and the additional ones found on the lime stone tablet, under the title of Plate II. See Fig. 7.

Dr. Farquharson draws analogy between some of these and the Runic inscriptions; also with the letters of the Phœnician alphabet, and quotes Brantz Mayer as maintaining that the Mexicans had a phonetic system, though he does not quite reach the position advanced by other members of the Academy, that the mound builders had a written language. Prof. J. Campbell on the other hand, traces a resemblance between the characters of the cremation scene and the characters of the Hittite alphabet, and thinks that the tablet proves a Hittite migration to this country.

We give here a double column of figures which is taken from Prof. Campbell's article in AMERICAN ANTIQUARIAN, and leave it for our readers to say whether there are any such resemblances as would warrant a person in interpreting one set of figures by the other set, (See Fig. 9.) Prof. Campbell goes so far as to say that the tablet can be read and actually gives a translation of it.

Dr. Cyrus Thomas in a recent letter to "Science," Vol. VII, No. 152, p. 10, maintains that the characters on the tablet above the cremation scene have marked resemblances to the alphabetic characters which are portrayed in the latter part of Websters' Dictionary, in the edition of 1872 and later. "A few, it is true, are reversed and in some instances the form somewhat varied, but the resemblance in most cases is very strong. The reader can make the comparison for himself. He will observe that in some instances, a number of characters in close relation on the tablet are found near together on the page of the Dictionary. Here also we find the 8 so often used on the tablets." Dr. Thomas has also traced a resemblance between four or five characters in the cremation scene and those on the limestone tablet which was found subsequently and which he (Dr. Thomas) thinks was a "plant" and not a genuine tablet.

The characters which may be seen on both (the coal slate tablet and the lime stone slab) are the following: those marked 1, 2, 3, 4, 5, 6 and 7, Fig. 10. This might be quoted as proof that the mound builders had an alphabet, a position which we have said some of the members of the Davenport Academy hold. This is the position which Prof. J. Campbell holds

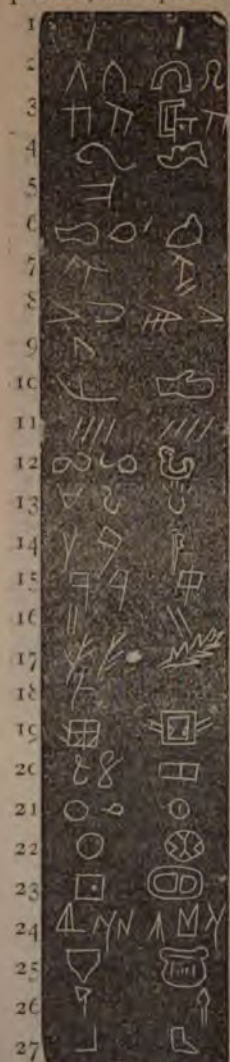


Fig. 9.

with great positiveness. We have taken the following cut, which shows the characters repeated, from his article, but would refer to one very singular circumstance, and that is that the word TOWN is found in one of the belts or arcs (see Fig. 11),



Fig. 10.

and would ask how mound builders and Hittites happened to strike upon this word and make it so prominent. We refer also to the fact this same line, if turned up-side-down will present the Arabic numeral 4 and the Roman character VI. We have then in the



Fig. 11.

tablets the numerals 4, 8, 10, 11; the figure 8 repeated in

every line, in each of the arcs and in the broken lines above the arcs. We have also several letters which are easily recognized as letters of the common alphabet. The only figure which can be recognized in the tablet at all as one which is common in prehistoric inscriptions is the one which is in the very centre of the arc, and which we present here No. 10, Fig. 12. Although the branchso-called, No. 3, in Fig. 12 does resemble to a certain extent some of the marks which were used by native people in this country. We leave this subject with the inquiry, how does it happen that the characters on this tablet should bear so great resemblance to Runic, Phœnician, Hittite and Arabic alphabets, and contain so many Arabic figures and Roman numerals, and yet contain only one figure which can be said to be undisputably native American?

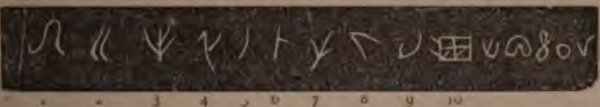
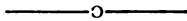


Fig. 12.

We would say in conclusion that the Davenport Academy of Science has been one of the most active societies in the country. Mound exploration has been a specialty with them and many valuable relics have been exhumed. We consider the members, all to be honorable gentlemen, incapable of deception but we ask the question whether a "plant" has not been perpetrated. It will be noticed that the mound No. 3 in which these tablets were discovered, is in the same group with mound No. 11, in which the third tablet was found. We quote here from Mr. C. E. Putnam's pamphlet on Elephant Pipes: "The third tablet was found on January 30, 1878, in mound No. 11 in the group of mounds on Cook's farm in the suburbs of Davenport and in close proximity to the mound wherein the other tablets were discovered." Previous to this Rev. Mr. Gass had discovered a number of remarkable stones with ancient engravings, embedded in a creek about 22 miles

west of Davenport. He says, **"I visited the place twice to obtain the needed information and help for the exploration. The second time, i. e., on the 15th of May, I discovered five inscribed stones. Two of them are now in our Museum; the other three, even if I had power to remove them from the creek, would have been too heavy for my vehicle, though one of them, the largest and most important, covered with many inscriptions, might be of particular value to our Academy."* We give this quotation with no intent to reflect upon the discoverer, for we have heretofore been, and are now, ready to defend him from all aspersions as to personal character and reputation, but the statement of facts in the very language of the Report is given with the question whether some unknown person has not been engaged in the work of planting tablets in the vicinity of Davenport, and whether various parties have not been misled? The tablets are too numerous and the discoveries too frequent for the majority of scientific men to accept them as genuine. This, however, does not detract from the value of the other relics which are in the Cabinet of the Museum.



NOTES ON EUROPEAN ARCHÆOLOGY.

BY HENRY PHILLIPS, JR.

On the leg of the bronze Bacchus found lately in the Tiber is the print of some coin, which, unfortunately, cannot be deciphered. It is guessed that the foundrymen placed it there on purpose to register the date, but this is a somewhat strained explanation. The eyes of this statue turn out to be ivory, not silver, as was first reported.

In the Magazine published by the *Oberlausitzische Gesellschaft der Wissenschaften* at Goerlitz in Prussia, (Vol LXI, 1st part, page 79,) is an article by Dr. A. Moschkau, of Oybin, on the prehistoric antiquities of *Oberlausitz* and the places where they were discovered. It occupies fifty-two (52) pages and is very carefully, and as it seems, completely put together. Sacrificial altars were found at fifty-nine (59) places; stone walls, at five; stone circles at thirteen; earthworks, at ninety; interment-places and earth-burial, eight; urn-burial, one hundred and thirty-five; weapons, (stone age), nineteen, (bronze age), sixty-six; (iron age), eighteen. Many other remains were found including idols, and clay-formed figures. The whole article is full of interesting details and deserves a wide circulation.

THE explorations at Cape Sunium conducted under the auspices of the L'Institut Archæologique Allemand have met with great success. The ancient temple of Minerva has been entirely determined and its form accurately made out. — *Annales du Musée Guimet*, N. S. XI, 2, 240.

THE *Musée Guimet* is about to be moved from Lyons to Paris, in accordance with an agreement arrived at between the government and M. Guimet, yet to be ratified by the Chamber and the Senate. — *Annales du Musée Guimet*, N. S. XI, 2.

THE explorations in Italy during July and August, 1885, resulted in Archæological finds of implements, inscriptions, etc., etc., on fifty-nine occasions throughout the whole peninsula. — *Academi Lincei*, R. C. I, XX, 662.

A PREHISTORIC CEMETERY has lately been discovered at Dumferline, in

*See Proc. Dav. Acad., Vol. II, Part I, page 142.

Scotland, enclosed by a circle of stones covering a mound 200 feet in diameter. At a distance of three feet below the surface a cyst was found, 46 by 24 inches, mostly filled with a dark mould, and containing some calcined bones. The other urns, eleven in number, measured from 5 to 12 inches in height and were similar as to their contents. Burnt bones were also found scattered about the mound. The interments are believed to be of the Bronze and Stone ages.—*Nature*, No. 830, XXXII, p. 518.

On October 2, 1885, a paper by the learned Slavist, Dr. F. S. Krauss, of Vienna, entitled "*Aus Bosnien und Herzegovina*" was read before the American Philosophical Society, in which he gives details as to the ethnography of these interesting but little known regions.

M. Paul Sebillot* has prepared a circular containing a large number of questions relating to popular superstitions and beliefs connected with the Sea, the answers to which he intends to use in his forthcoming work on the Ocean.—*Bull. de la Soc. d'Anthrop. de Paris*, VIII, 424.

M. Gaillard read, May, 1885, before the Anthropological Society of Paris, a paper containing the results of his explorations in the island of *Terier* near *Quiberon*, which lead him to believe that in that spot there once existed a workshop for the production of flint instruments, etc., and that the man of the epoch of the dolmens had once made his habitation there.—*Bulletin de la Soc. d'Anthropologie de Paris*, VIII, p. 410.

M. DELIATRE found in a prehistoric tomb near Carthage, a bronze hatchet, (11 cm by 6 cm). Two skeletons were in the same grave which the finder considers of Punic origin.—*Bulletin de la Soc. d'Anthrop. de Paris*, VIII, 513.

M. ASSOWSKI from 1878 to 1883 has been exploring the cavern of *Ojcor* (near the Polish and Hungarian frontier), where he found bones of animals, whose number increased with the depth of the excavations, handsomely formed flint implements, hammers, knives, axes of polished stone, etc.; in all more than two hundred objects. Below these were animal bones and some human remains.—*Bulletin de la Soc. Anthropologie, de Paris*, VIII, 475.

M. MASOUVRIER called to the attention of the Anthropological Society of Paris the fact that holes made in prehistoric skulls by the pick of the explorer were sometimes taken for the marks of prehistoric trephining, and exhibited two skulls that had been thus injured while being exhumed. M. Cartailhac however, was of the opinion that the two marks could not be easily confounded.—*Bulletin de la Soc. de Anthropologie de Paris*, VIII, 445.

THROUGH the exertions of the Chevalier J. P. Da Silva, a course of Archæology has been opened at Lisbon for which the Prince Charles has granted a yearly stipend of 1200 francs.

M. TEN KATE read before the Anthropological Society of Paris, March 19, 1885, a communication on the skulls from Lagoa-Santa in Brazil, in which he gave their measurements and dimension and compared them with a number of Lower-California skulls. He spoke of enormous differences in the types of American skulls, where there existed both the dolico cephalic and hyperbrachycephalic. He was not of the opinion that the Lagoa-Santa skulls were of the excessive antiquity claimed for them and did not believe that they were the remains of human beings who lived contemporaneously with the extinct mammals of the quaternary period of Brazil.

DR. HANSELL read on August 6, 1885, before the German Anthropological Society a paper on the Upper Rhine in prehistoric times; Prof. Bessinger, on Roman Baden, in which he gave an account of the various explorations conducted in that vicinity; Dr. Mayer, on the prehistoric refuge places between the Danube and Upper Rhine with a description of the remains found therein.

TERTIARY MAN.—At the recent meeting of the French Association at Grenoble, M. de Mortillet read a paper on tertiary man before the anthropological section. The question, he said, was not to know whether man already existed in the tertiary epoch as he exists at the present day. Animals varied from one

* 4 Rue de l' Odeon, Paris.

geological stratum to another, and the higher the animals the greater was the variation. It was to be inferred, therefore, that man would vary more rapidly than the other mammals. The problem was to discover in the tertiary period an ancestral form of man, a predecessor of the man of historical times. M. de Mortillet affirmed that there were unquestionably in the tertiary strata objects which implied the existence of an intelligent being. These objects have, in fact, been found at two different stages of the tertiary epoch—in the lower tertiary at Thenay, and in the upper tertiary at Otta, in Portugal, and at Puy Courry, in Cantal. These objects proved that at these two distant epochs there existed in Europe animals acquainted with the use of fire and able more or less to cut stone. During the tertiary period, then, there lived animals less intelligent than existing man, but much more intelligent than existing apes. M. de Mortillet gives the name of *anthropitheque*, or ape-man, to the species, which, he maintains, was an ancestral form of historic man, whose skeleton has not yet been discovered, but who has made himself known to us in the clearest manner by his works. A number of flints were exhibited from the strata in question, which had been intentionally chipped and exposed to fire. The general opinion of the savants assembled at Grenoble was that there can no longer be any doubt of the existence in the tertiary period of an ancestral form of man,—*Nature*.

At the last meeting of the French Association for the Advancement of Science, at Grenoble, M. Mortillet read a paper on Tertiary man in which he stated that his existence was unquestionably the case. That objects proving it had been found at *Thenay*, at *Otta*, Portugal, and *Puy Courry*, Cantal, showing the existence of animals familiar with the use of fire and able to cut stone. To them, more intelligent than apes and less so than man, he gave the name of *Anthropitheque*, or ape-man. In the opinion of the anthropologists assembled at Grenoble there was no longer any room for doubt of the existence in the Tertiary period of an ancestral source of man.—*Nature*, Sept. 17, 1885, p. 494.

M. G. DE MORTILLET read lately before the Society of Anthropology of Paris, (Bulletin, Vol. VIII, series 3, p. 139), a communication entitled *Le pré-curseur de l'homme*, in which he discussed the question whether during the tertiary period there existed on the earth beings or animals intelligent enough to fabricate for themselves instruments and to make use of fire. Of course he assumes that man such as he now exists did not live in those days, and he answers his interrogation in the affirmative citing in support of his position the following finds:

1. At Otta in Portugal, in the valley of the Tagus, deeper than the bottom of the Pliocene have been discovered flint implements showing absolute evidences of having been fashioned by the hand of design.
2. At Puy-Courry, near Aurillac (Cantal) of the same geological age were found implements of the same character bearing marks of intentional design.
3. At Thenay (*Loire-et-Cher*) were found remains that set the whole Congress of Archaeologists at Blois in commotion. These were the remains of a being who had intelligence enough to split the silex by the aid of fire and to refashion the fragments to make them serve his uses. These deposits, more ancient still than the two preceding, belong below to the base of the Miocene or to the remote lower Tertiary.

During the discussion that ensued after the reading of the paper the Marquis de Nadaillac took the position that these latter remains were Eocene and not Miocene, and differed from M. de Mortillet as to the value of the two preceding finds, instancing how the estimation had changed in which the bone of Poggiarone, the Los Angeles' skull, the Nevada footprints had been once held and the position to which these finds were now relegated.

M. Hervé believed that the mammals were of a much earlier origin than M. de Nadaillac thought.

At the next meeting M. De Aey presented some natural formed flints that resembled the alleged artificial remains found at Thenay, which gave rise to a warm discussion.

AN important discovery has lately been made at Kirchheim an der Eck of a skeleton in a squatting position, whose bones were mostly well preserved, and

whose skull was dolicocephalic with a low narrow forehead. The stature of the subject, judging from the tibia was about five feet and the sex feminine. In the same grave occurred thick, coarse, broken pottery with handle pieces affixed. The ornamentation was made by pressure of the nails. A few yards distant was found a handsomely finished stone chisel. All this pointed to the neolithic period as the date of the interment.—*Cor. Blatt. Deutsch Anthr. Gesell.*, xvi, 8.

THE explorations made at Neumagen, on the Mosel, between 1877 and 1884, have been so productive of discoveries consisting of sculptures on stones of varied character, groups of every day life, mythological representations, inscriptions and architectural fragments, etc., as to give the place the name of the Rhenish Pergamos.—*Cor. Blatt. Deutsch Ethno. Gesell.*, xvi, 7.

AT Worms am Rhein an extensive Roman burial ground has lately been explored and over sixty sarcophagi, of coarsely hewed red or white sand stone, entirely unornamented and uninscribed, have been discovered. They were all similar in their construction and finish, and all bore evidences of having been more or less tampered with after their interment, while curiously enough the relics of cremation found at the same time and place bore no evidences of having been disturbed. The lids of some of these stone coffins had been broken open by heavy hammers; in others only holes had been made so that the contents could be inspected and easily removed if desired. These spoils are attributed to the fifth century, A. D.—*Cor. Blatt. Deutsch. Anthro. Gesell.*, xvi, 8.

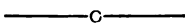
BRAZILIAN ARCHEOLOGY.—Dr. Ladislau Netto delivered an address on this subject at the National Museum of Rio Janeiro, Nov. 4, 1884, which has just been published, in which he reviewed the labors of recent scientists in this direction.

IN the *Excursions et Reconnaissances* published in Saigon by the French government are several papers on the ethnology of the tribes of Cochin China, some of them are described as ignorant of the use of money, both burying and burning their dead, and as working in iron. M. Laudes contributes papers on the Folk-Lore of the Annanites; M. Avmonier on the inscriptions in Cambodia of which he succeeded in obtaining 350.—*Nature* 833, xxviii, p. 67.

FOLK-LORE.—The *Boletin Folk-Loreico Galitano*, edited by D. Juan de Burgoy y Requejo, published at Cadiz, is the newest arrival in the field of Spanish Folk-Lore. It promises to be valuable and contains matter of interest.

OUR suggestion as to a Congress of Folk-Lorists has been taken up by Wm. George Black, Esq., of Glasgow, the eminent Folk-Lorist and it is to be hoped may bear good and speedy fruit.

FOLK-LORE.—The Spanish Folk-Lore societies invite the Folk-Lore-ists of all nations to contribute to a fund for building a vessel of war to be named the *Iberia* to "vindicate the national rights so basely outraged by Bismarck," and appeal to Americans, French, Italians, and all others opposed to his iron rule. The honor of Spain is based to-day, as ever, in the hearts of its zealous and patriotic citizens.



NOTES ON AMERICAN ETHNOLOGY.

BY D. G. BRINTON, M. D.

CHILIAN FOLK-LORE.—An English gentleman, Mr. Thomas H. Moore, has collected and published in the *Folk-Lore Journal*, a number of curious tales which he heard among the country people of Chili. Several of these, notably one about a good serpent, presented some traits which led him to believe that they were remnants of aboriginal myths which had passed into the possession of the early colonists and been transmitted to their descendants. This attractive theory, however, he has felt himself obliged to abandon, as researches in

Spain have disclosed the fact that tales very similar to those are also current there. It would not be without precedent, however, for both Araucanians and Aryans to have invented independently the same or similar imaginative occurrences.

MEXICAN ANTIQUITIES.—A handsome quarto describing his collection and illustrating its specimens by numerous photographs, has appeared from the pen of Mr. Herman Strebel, of Hamburg. It can be ordered through any foreign importing bookseller, and costs in New York \$18.00, or thereabouts. Most of the specimens were obtained near the Gulf Coast within fifty miles of Vera Cruz. They embrace stone, pottery, metal and shell work. Many of the terra-cotta figures are especially striking, and the features have such an impress of individuality that considerable probability is lent to the supposition that they were intended for portraits.

OBSCENITY IN AMERICAN ART.—In studying the art products of the various native tribes of America a remarkable diversity is apparent in the moral purity of their thoughts. I do not here refer to that naïveté which simply reproduces the nude, or which regards the sexual act as merely one of the natural functions, and contemplates it with the same indifference as do the lower animals. What I speak of are the portrayals of sexual vices, often with a marked cynicism and a studied and repulsive grossness, such as in the old world we see in the wall paintings of the lupanars of Pompeii, or in the illustrations of Aretino and De Saade. The vilest of these are fully equalled by some *huacas* or amulets I recently saw in a collection from Peru. Some of them were in solid silver; others in terra-cotta. In artistic design they belonged to the best specimens of Incarial work. They had been obtained quite recently from burial caverns at a height of over 11,000 feet. One group of four figures in solid silver weighed two pounds four ounces. It represented one female and three males, and was of an indecency beyond the foulest conceptions of the Decadence. In Aztec art such prurient conceptions are unknown, while they reappear in Cherokee designs, in some of the Haidah carvings, and elsewhere in the north.

THE VATICAN LIBRARY.—It has long been known to Americanists that the richest collection in the world in their branch is that at the Vatican Library. Quantities of unique American MSS. are there stored, and many objects of aboriginal art. But it has been wholly inaccessible, and not even a written catalogue of its treasures existed. Now, however, under the enlightened patronage of Leo XIII, the eminent scholar, De Rossi, has in press a complete catalogue of all books, MSS. and curiosities in the collection. The programme of the work has already been printed in Rome, and we may look forward to the addition of much most valuable material for the study of the languages, early history and archaeology of America.

THE TAENSA GRAMMAR.—M. Lucien Adam has recently sent me the first letter he received from the young Dominican, Parisot, who now rests under the grave suspicion of having manufactured the Taensa Grammar. In this letter, written in June, 1881, Parisot states that he has always had a love for the study of languages, and for the previous eighteen months had been giving his attention to those of America, perusing the works of Adam and other writers upon them. At that time he claims to have been working on his Taensa Grammar for two years. He calls the language *La Langue Hastri*, a term he subsequently dropped. At present this young gentleman pretends he has lost the original, and declines further controversy on the subject. Doubtless this is the wisest course that he can pursue for his own credit, as there will be some no doubt to defend his ingenious forgery, even when he himself declines the precarious undertaking.

POPULAR BELIEFS CONCERNING STONE IMPLEMENTS.—This is the theme of an article by the eminent ethnologist, Dr. Richard Andrieu in the last volume of the Proceedings of the Anthropological Society of Vienna. It is chiefly concerned with the notions of the peasantry of Europe as to the origin of stone implements, but a few pages are devoted to native American ideas on the subject. It appears to be a quite generally prevailing belief that stone axes and arrow heads are the products of the thunder and the lightning. This is true of

many curious shaped stones. I remember a New Jersey farmer referring to this source the belemnites which are found in the green marl of that State. Their ordinary name is "thunderbolts." Dr. André writes, as usual, a learned article, and has collected many curious facts.

THE TOLTECS.—In the last number of the *Revue D' Ethnographie*, the well known traveller, M. Désiré Charnay, begins the first of a series of articles in the course of which he intends to do all he can to establish three points: 1, That there was such a historical nation as the Toltecs. 2, That all the civilizations of America were the developments of one and the same civilization; and, 3, That this civilization was founded by and derived from the Toltecs. As in the opinion of many competent Americanists one or all of these propositions are fundamentally and radically erroneous, it will be interesting to see how M. Charnay acquits himself of his task.

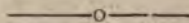
TITULO DE TOTONICAPAN.—Under this title the Count de Charencey, one of the ablest students of American antiquities in France, has issued for the first time a remarkable document relating the legends of the Quichés of Guatemala. They were committed to writing in the native tongue about 1550, and were preserved to defend the titles to some lands. A Spanish translation was made by a priest well versed in the native tongue some forty years ago, and this, with a French version, is presented by M. De Charencey. Those readers who are acquainted with the Quiche "*Popol Vuh*," as published by the Abbé Brasseur de Bourbourg, will find in it much to support and explain this singular document.

THE LLAMA IN ETHNOLOGY AND ARCHEOLOGY.—As the only domestic animal of draft or burden known to the American Indians—if we except the occasional use of the dog—the llama has especial ethnological interest. It is gratifying to see, therefore, that a thorough study of this animal from the ethnological point of view has been made by the veteran scholar and traveler, Dr. Von Tschudi, in a late number of the *Zeitschrift für Ethnologie*. His intimate personal knowledge of the native tongue and local habits of the Peruvian aborigines have enabled him to make it a masterly article.

BIBLIOTHECA DE LOS AMERICANISTES.—One of the good results of the session of the *Congres International des Americanistes* in Madrid, in 1881, was the formation of a plan by various literary men of Madrid for the purpose of printing a series of volumes under the general title above given. It was intended to embrace not only MSS. hitherto unpublished, but old works on America which have now become exceedingly rare and costly, so that they are practically out of the reach of most scholars—a class not usually endowed with plethoric pocket books. The first publication of this meritorious organization was the *Recordacion Florida* of Antonio de Fuentes Y Guzman, a hitherto unpublished work on the history of Guatemala, and containing a great deal of ethnological interest. It was issued under the competent editorial care of Don Justo Zaragoza, and forms two octavo volumes of nearly 500 pages each. It was an excellent selection, and very satisfactory to subscribers. The next issue, which has appeared only within the last few months, is the *Historia de Venezuela* of Jose de Oviedo Y Banos, edited by Captain C. F. Duro. This can not be considered so judicious a selection, as two editions of this history have been printed, and neither is so rare as the editor seems to think. Last year I bought a copy of the edition which he says he had never seen, at quite a moderate price, from a German catalogue. Subscriptions to the *Bibliotheca de los Americanistas* can be made through E. Steiger & Co., 25 Park Place, New York City.

STUDY OF THE MAYA HIEROGLYPHS.—It is gratifying to note that the study of the Maya hieroglyphs is occupying several able scholars in different parts of the world, and that before long we shall have some firm ground under our feet in pursuing these researches. In the Third Annual Report of the Bureau of Ethnology, which has just been issued, Prof. Cyrus Thomas has a learned paper entitled "Notes on Certain Maya and Mexican Manuscripts," in which he gives some satisfactory and positive results of his studies of the Fejervary and Borgian Codices, etc. In Berlin, Dr. Schellhas, a gentleman of the legal profession, has been devoting his leisure for a year and a half to the study of the Dresden Codex, and has ascertained the meaning of certain mythological sym-

bols, upon which he will shortly publish an article. Dr. Förstemann, the learned librarian of the Royal Library at Dresden, has already completed the MS. of an essay on the symbols of the Dresden Codex. It will be published in the course of the present year, and will contain some striking identifications which can not fail to attract the attention of the learned world to the characteristics of this remarkable system of writing, and in a measure supply the key to its mysteries.



NOTES FROM THE FAR EAST.

BY PROF. JOHN AVERY.

HILL-TRIBES ON THE EASTERN FRONTIER OF INDIA.—In the earlier numbers of this journal, (April, 1883 and Sept. 1884,) we described the rude peoples who line the northeastern border of India, and remarked that a hardly less interesting ethnological zone was embraced by the mountain ranges which extend southward from Assam into British Burma. The conditions are, indeed, much the same in both regions. In each are river valleys, where a portion of the aboriginal population have settled down to steady cultivation of the soil, and have in some degree intermixed with, and adopted the customs of, a superior race; and in each are precipitous and forest-clad mountains, where tribes have so jealously guarded their seclusion that even now they are to our apprehension little more than names. Crossing the range which forms the water-parting between the valley of the Brahmaputra and that of the Barak, we come first to the district of Kachar, which consists of a river-valley and a tangled mass of hills surrounding it on three sides. Here, besides Hindus, are collected representatives of numerous hill-tribes—Manipuris, Kacharis, Lushais or Kukis, Nagas, Mikirs and Khasias. Most of these tribes are recent immigrants, attracted by the tea and rice culture of the district; and, so far as they have not already been described, will be best noticed in their more permanent homes. Directly east of Kachar is the native state of Manipur, which, like Kachar, consists of a valley with an environment of mountains.

Though the Manipuris, who form the chief population of the valley, no longer deserve the epithet of rude or savage, since they have made considerable progress in civilization; yet their language and features, as well as surviving customs, so clearly connect them with less advanced tribes in their neighborhood that we cannot pass them by. They are acquainted with writing, using characters derived from India, and have a few records, which purport to trace their history back to the first century of our era, but which are doubtless nothing more than "lying legends." They are nominally Hindus in religion, but in reality still cling to the faith of their ancestors—a belief in the potency of innumerable gods of the hill, forest and vale. The State is governed by a Rija, who is independent in name, but is guided by the advice of a British resident at his court. The ruder people of the surrounding hills are known by many local and clan names, but are all believed to belong either to the Kuki or to the Naga families, those to the northeast connecting themselves with the latter and those to the southwest with the former. Prominent among these sub-tribes are the Koupis in the hills between Kachar and Manipur. Unlike many hill people they live in permanent villages with substantial houses. These are perched on the most inaccessible hills and carefully fortified by a stockade. Each village has its hereditary chief or headman, and two other officers who hold their position by the same tenure. The authority of these men is usually very slight, and the good order of the village depends more on a feeling that the public safety requires a mutual regard for individual rights. As among some of the northern tribes, the unmarried men and boys do not sleep at home, but in one or more houses set apart for their use. In this way they are in a position to serve as police or watchmen. The younger portion are expected to obey, and to perform menial services for their seniors.

The community is divided into four family groups, whose members may intermarry with any of the other groups, but not within their own. When a husband dies, his brother or other near relative marries the widow; if the wife

dies first the husband is required to pay her relatives a certain sum as the "price of her bones." The Koupuis are said to believe in a Supreme God and a future life, but it is safe to assume that their chief interest is centered in inferior deities. Not only domestic valuables but heaps of twigs or leaves on the hills where their gods reside serve as offerings. The practice of *Tubu*, called by them *peina*, exists, and relates to exit or entrance of villagers or strangers on certain days, abstention from food or drink, and the like. Two other tribes in the same region are the Quoirangs and the Khonjais. The latter once lived south of the Koupuis, but were driven northward by the more warlike tribes. They have a tradition that once their ancestors lived in the bowels of the earth, but accidentally discovering an aperture, while hunting, they emerged to the surface. Their method of computing time is by the number of spots of forest land cultivated—each being used for one season only. The hereditary chiefs of this tribe have more influence than those of the Koupuis, and derive their support from taxes in kind or the personal services of their subjects. When a chief or rich man dies his body is smoke-dried and kept for a month or two before burial. Meanwhile, continual feasting is kept up, and the heads of the animals slain, as well as those of enemies procurable, are placed beneath the corpse, with the idea that they will in spirit-form attend the deceased in the other world.

Southwest of Manipur is the district of Hill Tipperah, where is the tribe of the same name, numbering about 30,000. The language of the Tipperahs, or Tripunis, as they are more properly called, is closely allied with the Garo and Kachari of Assam, and with these and several less important tongues forms a sub-group of the Tibeto-Burman family. Though living in closer contact with an Aryan population than many of the hill tribes, they have only recently begun to yield to Hindu influences by adopting some distinctions of caste. They still worship elemental gods with offerings of fowls, pigs, and other animals. They make sacrifices before a bamboo set in the earth, as do the Garos and Kacharis. The Tipperahs are extremely fond of dancing and drinking. Their liquor is brewed from rice, and is mildly intoxicating. Like the hill people generally, they have great respect for an oath taken upon the *dao* or hill-knife, rice, cotton, or some other valued possession. When a man dies, his body is removed from the house to an open space, where a cock is killed and with some rice placed at his feet. This food is supposed to appease the hunger of the ghost, and render it amiable toward the survivors. The body is then cremated, and the ashes, together with the dead man's weapons, tools, and ornaments, are placed in a miniature hut on the top of a hill. The same offerings are made for seven successive days, and afterwards at longer intervals for a year.

The partly explored region bounded north by Kachar, west by Hill-Tipperah, south by Chittagong, and east by Burma, is the home of one of the most notorious, but until recently last known, of the hill-tribes, the Lushais or Kukis. The latter name, and the people designated by it, became familiar to us in Assam; but the relation which it bears to the former is not fully settled. Some writers use the two names as synonymous, while others, probably more correctly, hold that the Lushais are a section of the more numerous Kuki tribe. A few years ago the most that could be told of the Lushais was that their chief occupation seemed to be the making of forays upon their weaker neighbors. These were a series of surprises and as sudden retreats into the deep forests. To check these inroads, several expeditions organized by government penetrated into their country, and brought back much information regarding their beliefs and customs. The Lushais have a fairer complexion than the people of the plains, and a musical voice, which is reflected in their language. Though connected with the Mongolian race, the general type has been considerably modified by distant wanderings from the primitive home and by admixture with other tribes. Each village has its hereditary chief, who, as the owner of all the property of the village, is supported by the contributions of all the families. The people build his house, share the expense of entertaining his guests, and furnish three days' labor yearly. The chief's house is an asylum for criminals or other fugitives, who thereby become his slaves. Their villages are placed on the summits of steep hills and carefully guarded by stockades. Each is occupied so long as the vicinity is fit for their rude agriculture, and

then the whole community moves off to another spot. Their women are not without influence in counsel, but do most of the hard work, while the men are engaged in the chase or head-hunting among their neighbors.

A man who is decidedly inferior to his fellows is compelled to put on woman's clothes and work with the weaker sex. Their funeral customs have some grotesque features. When the head of a family dies, his friends and relatives gather from far and near for a grand "wake." The corpse is dressed in his best clothes, and seated in the midst, with his weapons on the right hand and his weeping widow on the left. Food is set before him, his pipe is filled with tobacco and put between his teeth, and he is invited to take a "square meal" before starting on his long journey to the spirit land. Some clans place the body in a hollowed tree-trunk, and after drying it on a platform in the sun bury all but the head in an earthen vase. Others sheathe it in pith and dry it over a slow fire. One clan hangs it to the beams of the house for seven days, and meantime the widow is compelled to sit beneath and spin. The laws of inheritance are such that women have no share in property. The estate is divided in equal shares among the sons, after the *youngest* has received the largest portion. The religious notions of the Lushais are much like those of the tribes already noticed.

Southeast of the last named tribe are found the Shendus, who are even less well known than the Lushais. Several attempts have been made by explorers to penetrate their forests, but with slight success. A few facts have been gleaned by contact with small parties who have approached civilization in forays or for trade. They appear to be well built and fond of war, and judging from the arts known to them, possess more than the ordinary intelligence of hill-people. Both sexes are decently clad. They are familiar with firearms; and manufacture their own gunpowder. Their houses are built of logs and boards, instead of the less durable bamboo. They, like the tribes of the Hilmālaya, cultivate the soil in terrace fashion, and not by burning a portion of forest and sowing the seed in the ashes, as do their neighbors. The dead are buried, not burned, persons of note being placed in a sitting posture. Beyond a few facts like these we know nothing of the social or domestic characteristics of the Shendus, nor of the extent of their country, which presumably touches Burmese territory, whither they seem to resort for trade.

Southwest of the Lushai and Shendu country is a district of a similar character, known as the Chittagong Hill Tracts; where are found numerous hill-tribes, some of whom are recent immigrants from the north and have been already described, while others are yet to be named. The aboriginal population is naturally divided into two portions, the Khyoungtha, Children of the River, and Toungtha, Children of the Hills. The former are measurably civilized, and, as their name implies, occupy the lower land along the streams; while the latter are more savage, and, keeping to the seclusion of the forest-clad hills, dread the water and never venture on it in boats. The Khyoungtha came originally from Arakan, speak a dialect of Arakanese, and profess Buddhism. Their village communities are under the supervision of a headman who holds his office by election. Groups of villages are under the authority of chiefs, to whom a yearly tribute is paid. The Chakmas are by far the largest tribe in these hills, numbering nearly 30,000. They are classed with the Khyoungthas on account of similarity of customs, though most of them speak a dialect of Bengali. They are divided into forty clans, each of which has its headman, who settles petty disputes and collects the yearly poll tax. He retains a portion of this and turns the remainder over to the chief of the tribe. The religion of the Chakmas is a mixture of Hinduism and Buddhism. They adore Gautama and at the same time observe Hindu festivals. They burn their dead—men with face to the east and women with face to the west. The principal tribes of the Toungtha living in this district are, besides some immigrants already noticed, the Kumis, Mros, and Khyengs, who are entirely under Government control, and the Bung's and Pankhos, who pay no revenue, but are under British influence. The chiefs of these tribes enjoy authority only so far as their personal influence extends, and their subjects are always ready to desert them for some more popular and successful leader.

Marriage is contracted with little ceremony save feasting and dancing. The bridegroom must serve his father-in-law three years before the girl is legally

his wife, but in the meantime they live together as if married. Divorce is granted by the village elders. The Kumis and Mros are branches of tribes living farther south in Arakan. The former are warlike and fortify their villages with much skill. They practice slavery, burn their dead, and leave their property to the eldest son. They are called Khwey-mi 'dog-men' by the Burmese, from the custom of allowing an end of the waist-cloth to hang down behind like a tail.

The Mros, on the other hand, though tall and muscular are timid and peaceable. They also keep slaves, but bury their dead and leave their property to the youngest child.

The Khyengs are a large and widely-extended tribe, being found in the most inaccessible parts of the mountain region separating British from Independent Burma, and from the Shendu country to Cape Negrais. Not many are found in the Chittagong Hills. They are peculiar in tattooing the faces of their women at maturity, alleging as a reason that it is a protection against being kidnapped. On the occasion of a death, a pig or other large animal is killed, and a dead fowl is tied to a big toe of the deceased. The former conveys him on its back to Paradise, and the latter terrifies the worm which guards the celestial gates. The law of inheritance is that the eldest son shall receive two-thirds of the property, and the remaining sons the other third in equal shares. Women can not hold or transmit property. Each village has a headman, in whose family the office is hereditary. The Khyengs are able to weave the cloth from which their clothes are made. The loom, which is a rude affair, rests partly on the ground and partly in the lap of the weaver. The tribe call themselves Hiou or Shou and claim relationship with the Shendus and Kumis. They say that their ancestors once lived farther north on the head-waters of the Kyendweng, but can offer no written records as evidence of the fact. The Banjogi and Pankho tribes live mostly east of the Sangu river, and though closely resembling the Lushais in language and appearance, claim to have sprung from the Shans of Burma. They also relate that their ancestors issued from a cave in the earth; one of these was a great chief who married God's daughter. At this time the birds and animals could talk in intelligible language, but this was found to be an objection, since on being attacked by man for food they plead so piteously for their lives that no one had the heart to kill them. On this account God made them ever after dumb.

South-east of the Chittagong Hills is Northern Aracan, or the Aracan Hill Tracts, a district embracing 4,000 to 5,000 square miles. The most important tribes of this region have been already described, and we have only to mention in addition the Anus, who are found on the Tsala river, and who dress like the Kumis, but speak a different dialect and are otherwise little known; and the Khyaws (Chaws), who are an offshoot of the Kuki family, from which they became separated at a time and for a reason wholly unknown.



ETHNOLOGIC NOTES.

BY ALBERT S. GATSCHEK, WASHINGTON

Prince Roland Bonaparte: The Inhabitants of Surinam, from notes gathered at the colonial exhibition at Amsterdam in 1883. Paris, Quentin's press, large fol., pp. 227, 2 maps, and 72 plates of illustrations, 1884.

The contents of this French volume, which is of a quite luxurious and costly exterior, are of interest for the general public and exceed the limits of purely ethnographic research. The types of humanity represented at the Amsterdam exhibition portrayed so completely and faithfully the population of Dutch Guyana, that a somewhat exhaustive study of these was made possible in spite of the distance from their native land. In the introduction the author has sketched in concise language his mode of anthropologic investigation, his methods for gaining an insight into the habits, customs, institutions and language of a people; he then divides the country into three very dissimilar geographic belts; the coast marsh, the savanna, and the primeval forest of the interior. After re-

viewing the history of colonization in Guyana, the main portion of the volume opens with a sketch of the Indian population, of the sylvan negro, and of the sedentary negro, the whole richly illustrated by full-face and profile photo-engravings of the human subjects exhibited at Amsterdam. To this are joined colored plates, illustrating various manufactures and other objects of ethnographic interest pertaining to the populations above. Three sections of Indians are established: the Kalina or Carib, the Warrau and Arowak, all of whom have retained many of their ancient Indian characteristics, although subjected to the influence of European culture for more than a century. No specimen of the interior wild tribes were exhibited, and consequently these were omitted from the description; the Indians of the coast do not figure up over 800 souls at the present epoch; they do not easily assimilate to the European element and tend to disappear under the influence of fire-water and distemper. Follows a chapter on customs, habits and religious beliefs; then from information obtained through these Indians, a new (?) explanation of the couvade or male child-bed is introduced, which is as follows: After the birth of the child the husband lies down in his hamac and the wife takes up her daily occupation after four or five days only, when her condition permits her to do so. From the first day the father receives the congratulations of his friends and neighbors concerning the happy event; the general custom forbids him to cut down trees, to kill large game, to drink strong liquors during the first days of the babe's existence, for if he did so it would fall sick or die. Custom does not force him exactly to stay in his couch, but only to stay at home and to suspend his daily work for the time being; this enables the wife to get the benefit of his protection and help at this critical period.

The "negroes of the bush" are runaway slaves or descendents of such, who for more than a century back in time settled along the large rivers descending from the interior and enjoyed freedom once more. This class of the Guyana population is but little known and thus we are thankful for the entirely new information presented. It appears that there are about 8,000 of them, divided locally into Aucanders, Bekoes, Moesingas, Saramacanan and Bonis. Their beliefs and customs, on which the volume expatiates at length, are clearly of African origin and extremely curious. They speak the English Negro-Jargon of Suriname, also called takitaki, but each division uses special terms besides those brought from Africa, and the majority has preserved the native African tongue, in which they converse among themselves. The sedentary negroes are divided into plantation negroes and negroes inhabiting cities, these latter forming 47 per cent. of the whole colonial population. Specimens of texts in the takitaki jargon are appended to this instructive portion of the book. A sequel to this volume is announced by the author himself, and we wish that by its publication he may add a new wreath to the laurels which he has so fully deserved by giving to the studious public the interesting volume just described.

Ten Kate's Explorations.

ON Nov. 5, 1882, the explorer Dr. H. Ten Kate, a native of the capital of the Netherlands, landed on the North American shore for the purpose of exploring portions of the S. W. of the U. S. and northern Mexico. His explorations were to be of ethnological character and to embrace also the pursuit of anthropometry among Indians. He has just published a voluminous report of his cruise which lasted one year and was very fruitful in scientific results. The report is written in the Dutch language. *Reizen en Onderzoekingen in Noord America*, van Dr. H. C. Ten Kate, Jr.; Leiden, E. J. Brill, 1885. 8 vo., pp. 464, map and two plates representing Indians and their dwellings. After going West by way of St. Louis and Texas he first visited Sonora and the southern end of the Californian peninsula. He succeeded in finding there graves of the Pericú Indians, whose remains proved them to have been anthropologically of a race foreign to the inhabitants of the peninsula further north. The countries further visited by him were those on the Gila river, and the Mohave reserve on the Colorado river, Central Arizona, the Papago and Apache settlements, Zuñi and the Pueblos of northern New Mexico, southern Utah and the tribes in the Indian Territory. His observations in zoology and botany, in politics and national economy are almost as rich and interesting as they are in his own field of labor, that of ethnology. In the latter he pays particular attention to pictographs, Indian dress, color sense and the tracing of the tribal names in

regard to their synonymy. It is refreshing for an American to read what a foreigner says about the inns, "groceries," squaw men, cattlemen, and cow-boys of the West, and not less to the point are his pungent remarks about the traders, politicians and "judges," who are represented in other parts of the country as well.

Dr. Ten Kate is also the author of several French publications of smaller size, especially on craniums, the material to these having been supplied to him by this recent trip to America. During the summer months of 1884 he went with a scientific party, under the auspices and leadership of Prince R. Bonaparte, to Finland and Laponia; he is now in Suriname exploring the interior of that tropical region.

LITERARY NOTES.

THE Di Cesnola antiquities are the subject of another attack. This time it comes from Colonel Warren R. A., and Dr. Ferdinand Duemmer. This time doubt is thrown upon the accuracy of General Di Cesnola as to where he found some of his treasures.

DR. DANIEL G. BRINTON, of Philadelphia, has been announced as Laureate of the *Société Americaine de France* for 1885, and awarded the medal of the society for his works on the Aboriginal language of America.

THE Harvard College President and fellows have voted to establish a Peabody professorship of American archaeology and ethnology, and have elected Fredrick Ward Putnam, A. M., as professor in that department.

MR. SAMUEL BIRCH, the Egyptologist is dead. He was born in London in 1813. He was the author of a number of books on Egyptology and assisted in the revision of Wilkinsons's Egypt.

BOOK REVIEWS.

Third Annual Report of Bureau of Ethnology for 1881-2; J. W. Powell, Director. Washington, 1884.

This is an interesting and valuable report. Its contents are, Introduction by the Director; Monographs on the "Relations of the Maya to the Mexican Codices," by Cyrus Thomas; "Masks and Labrets," by Wm. H. Dall; "Omaha Sociology," by J. Owen Dorsey; "Navajo Weavers," by Dr. W. Matthews; "Prehistoric Textile Fabrics Derived from Pottery," by Wm. H. Holmes; "Illustrated Catalogue of the Collection of 1881," by W. H. Holmes; "Illustrated Catalogue of Collections obtained from the Pueblos of New Mexico and Arizona in 1881," by James Stevenson. The volume is illustrated by 44 full page plates, 200 wood cuts and contains 606 pages. The most interesting article is the one by Dr. Thomas, in which he describes the calendar symbols of the Mexican and Maya races. It is singular that calendars in this country should be the first sign of civilization, and that the prehistoric and historic culture should seem to hinge on the calendar system. The American and the Asiatic are certainly very different in their symbols and in their enumerations. Several points have been established already. 1st, That the calendar is related to the religious feasts. 2d, That the chronology and the feasts were expressed, one by composite human and animal figures, the other by hieroglyphics. 3d, The symbols for the points of the compass, or four quarters of the sky, were prominent in the codices. 4th, The symbols for the winds were contained in bird effigies, while the enumeration of the days, months and years were represented by ideographs. 5th, The cross was a symbol which denoted the cardinal points. Dr. Thomas has fixed some other points. 1st, That the groups of symbols or characters in the codices are to be read from right to left opposite to the course of the sun. 2d, He has discovered the character for 20; this is

important, because the division of the year was made into 20 months of 13 days. The article by Mr. Dorsey is also very interesting, as it describes the Gentile System of the Omahas. The article on Masks is valuable, as it illustrates some points in the totem system. The articles on "Textile Fabrics" illustrate the art, especially the industrial arts in prehistoric times.

Prehistoric Fishing in Europe and North America, by Charles Rau. Smithsonian Contributions to Knowledge, 509. Washington, D. C. 1894.

What Dr. Rau does, he does well. Like the monograph on "Cup Shaped Sculptures," so this on "Prehistoric Fishing," is an exhaustive treatise. It illustrates the implements used by the cave dwellers, also the sculpturing or engraving common among them. It then treats of fishing among the lake dwellers; describes their boats, sinkers and harpoons. Part II. treats of the fishing implements found in North America; the fish hooks, sinkers, fish cutters, anchor stones, paddles, scoops. It also describes the carved and moulded images of fishes found in various parts of the country. It describes the artificial shell deposits, and finally quotes from various writings in reference to aboriginal fishing. The Appendix contains descriptions of some fish-shaped silver ornaments found in the Chinca Islands. The author confines himself strictly to his subject, but illustrates the different phases of Prehistoric Fishing very clearly. The book will be regarded as a standard for many years to come.

Wonders of Art and Archaeology, Wonders of Sculpture: by Louis Viardot. *Wonders of Glass Making*, by A. Sauzay. *Ramesses, the Great, or Egypt 3300 Years Ago*: translated from the French of De Lanoye. New York: Chas. Scribner's Sons: 1885.

These three volumes on Archaeology, prepared by French writers, have a varied interest and a varied style; two of them brilliant and vivacious; one of them somewhat heavy but learned. The first volume, that on sculpture, takes in the whole range of the history of art from the early stone age in Europe to the latest products in America. It embraces the Egyptian, Assyrian, Etruscan, Grecian, Roman, Italian, Spanish, German, Flemish, English, French, American. It is well illustrated and is a marvel of cheapness, especially when we consider the quality of the engravings. The second, on glass making, treats of modern more than ancient art. It is also finely illustrated. The volume on Egypt is really the most learned of the three. The author is a fine scholar in Egyptology. The book contains some new engravings: one representing a bass-relief of Sesostris near Sardinia. The author takes one position which we hardly think is tenable—that the Hyksos, or shepherd kings, had their starting point in Central Asia. He, however, describes the different races known to the Egyptians, and in this presents some interesting facts. His theory is that the shepherd kings drove the Egyptians up the Nile, but that they united with the Ethiopians and returned and established the new dynasties which prevailed for so many years. The book is an excellent summary and will be sought for for its information. The Scribners are the first to enter upon this field of Archaeology with the purpose of furnishing popular reading, but we predict they are not the last. The science is rapidly growing and is destined to be very popular. They have only anticipated the demand a little. We hope that they will find the demand for such books growing, so as to encourage them in furnishing other volumes of the same kind.

BOOKS RECEIVED

Die Färberei der Aegyptier von Adolph Bastian. 8vo pp. 134. Berlin, 1884. Weidmannsche Buchhandlung.

Die Färberei der Aegyptier von Adolph Bastian. 8vo pp. 134. Berlin, 1884. Weidmannsche Buchhandlung.

Two most excellent books from the famous student, characterized by his usual care and thoroughness of work and soundness of judgment; perfect storehouses of information on these strange and dark superstitions. They are well worthy of issue in English by some enterprising American publisher.

P.

THE
American Antiquarian.

VOL. VIII.

MARCH, 1886.

NO. 2.

DISCOVERIES IN THE MEXICAN AND MAYA
CODICES.

Since the publication of my "Study of the Manuscript Troano" I have made some discoveries in the pre-Columbian manuscripts which may be of interest to the few who are devoting attention to Mexican and Central American paleography. As the illustrations necessary to make the methods of discovery plain cannot be introduced here I must limit my article to somewhat general statements, referring those who wish to verify them to the Codices.

I have ascertained that the so-called "*Tableau des Bacab*" of the Codex Cortesianus and plate 44 of the Fejervary Codex are calendars, the former Maya, the latter Mexican, (probably Tezcucan), and that they are to be read around toward the left opposite the course of the sun; each line of dots in the loops indicating a week of thirteen days, and a complete circuit the cycle of 260 days. A full explanation of these discoveries is given in the Third Annual Report of the Bureau of Ethnology, just issued.

A still more important discovery is the fact that a large portion of the black numeral characters of all the Maya Codices are intended simply as counters to indicate the number of days, months, etc., from one date to another. This may be illustrated as follows: Counting twelve days from *Monday* the 4th day of December brings us to *Saturday*, the 16th. In the Codices the days are represented by symbols, and the counter or interval (as the 12), by black numeral characters.

The importance of this discovery is shown by the following facts: Applying it to the alternate red and black numeral series running through the plates of the Dresden Codex, (the red numerals indicating the numbers of the days of the Maya week),

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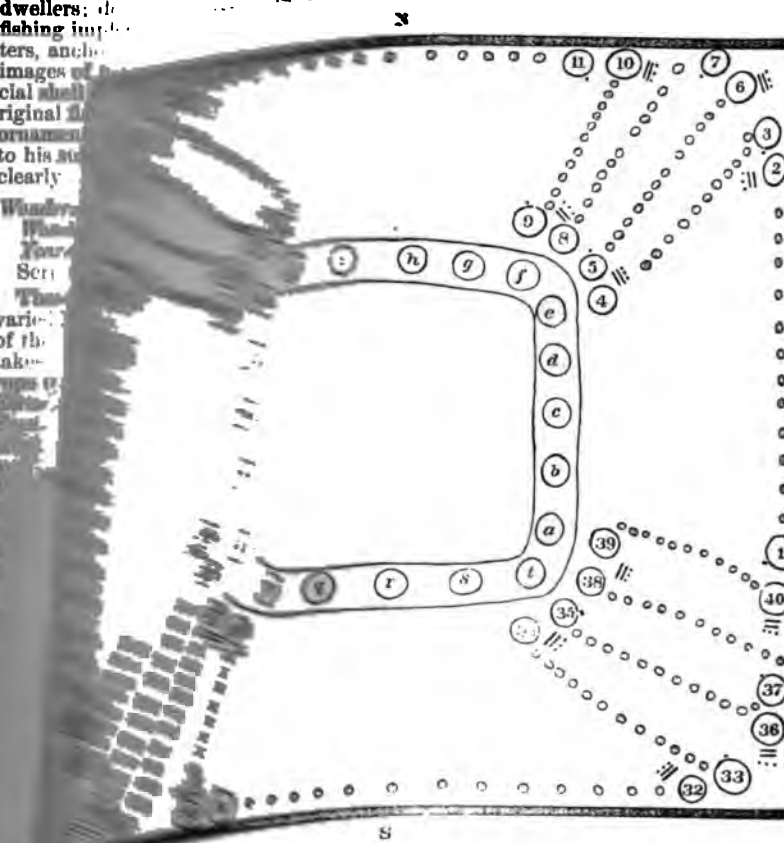
*Prehistoric Fishing
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... days indicated even where the
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... pages of the codices; 4th it as-
... characters; and 5th, it determines
... series of numbers to the day col-
... shown in Chap. 7, of my "Study of



... I find, for example, that by adding
... numeral over the day column and all the black
... follow to the right we obtain the interval which
... the first to the second day of the column. This
... advanced in my work alluded to that these
... refer exclusively to the months, and hence mod-
... in that work,—though, strange to say, it does
... conclusion reached—*viz.* that the Maya cycle,
... Ahau or Katun, consisted of twenty-four years.

I find also that these numeral series always consisted of two or more complete Maya weeks, or in other words are always some multiple of thirteen.

In testing this discovery I have ascertained that the character shown in figure 96, page 159, "Study MS. Troano," is used as a symbol of 20 and if phonetic stands for the Maya word *K'al*; also that the red diamond-shaped characters are used to denote two numbers,—18 and 20—; possibly they are used only to signify the completion of the month and day series and not as symbols of numbers, as those used for the two purposes are not distinguishable, although there is no difficulty in determining by the connection to which class they apply. The proof in each case is such as will satisfy the most skeptical mind but cannot be introduced here.

I have ascertained that the black numerals are also used in the Dresden Codex for other purposes, as, for instance, to indicate the numbers of the days of the month, the numbers of the months, and the numbers of the years, (probably in the Ahau or Katun,)

Running through the lower division of plates 51–58 of this Codex is a continuous series of three-day columns, immediately above which are three horizontal lines of black numerals. The numbers in the lowest of these lines I find denote respectively the day of the month (always of a *Muluc* year) of the first day of the column over which they stand; the next line above contains the numbers of the months and the upper line the numbers of the years. Immediately below the day columns is a horizontal line of red numerals and below these a line of black numerals; the former (the red) indicate the number of months, and the black the number of days to be counted from the first day of one column to the first day of the next column to the right. As this runs through the entire series with but a single miss which appears to be accounted for by an interpolated day, there is no reason to doubt the correctness of the theory.

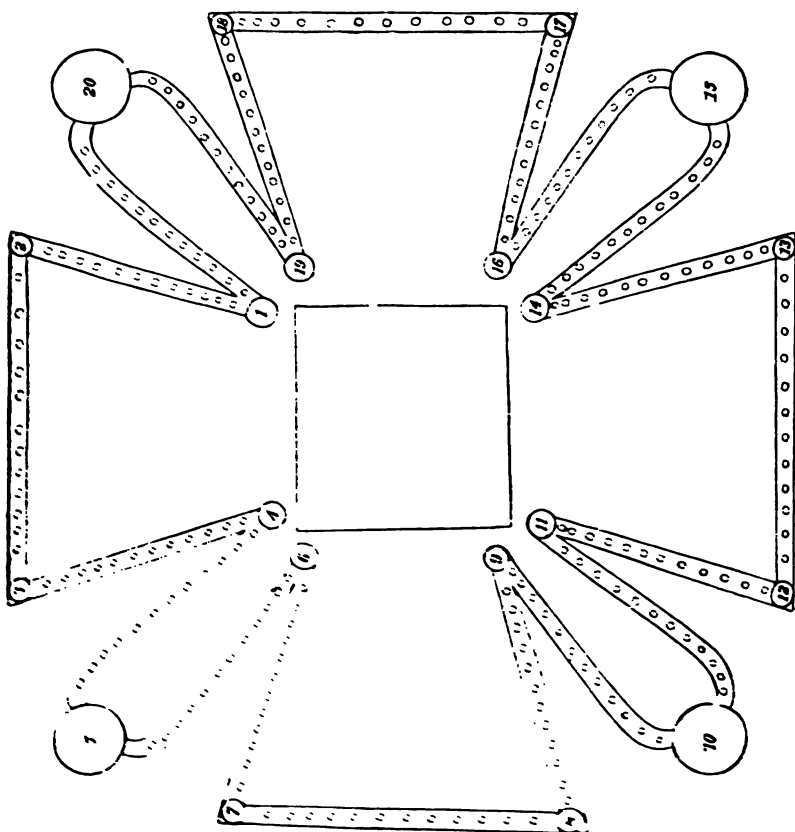
I have also discovered the relations of the days in the tabular series of plates 46–50 of the same codex. By means of this discovery I can restore all of the obliterated days and numbers and correct the mistakes relating thereto in Kingsborough's work.

By means of these discoveries I have ascertained that plates 1 and 2 in Kingsborough's copy of this codex should follow (stand to the right of) plate 43, and that plates 29 to 43 are correctly placed in this work. This proves that Forstemann's supposition in reference to the order of the plates as given in the introduction to his photographic copy is incorrect. But his conclusion, that there are in this codex parts of two different manuscripts, I believe is right.

This codex appears to pertain to a much more ancient date than either of the other Maya manuscripts. There are also reasons for believing that it originated in the section in which Palen-

que is situated and with the people who were the authors of the inscriptions found on the ruins of that city. At any rate it bears a close resemblance to these inscriptions.

In the text (if we may so call it) over the figures in some of the compartments are abbreviated pictographs apparently intended to represent something in the figure beneath, while precisely the same things are indicated in the other codices by symbols or phonetic characters. A few of these peculiar, abbreviated pictographs or conventional signs are found in the Palenque inscrip-



tions. A singular fact in regard to this codex, which also points to the region where it originated, is that there are found in it a few characters which appear to have been derived from Mexican symbolic figures. The introduction in it of a large number of female figures, represented as taking part in the religious ceremonies, also points to the same conclusion.

Although the progress made in the direction indicated is con-

siderable, little has been accomplished in the work of deciphering the hieroglyphics.

The order in which the text is to be read is, I think, now definitely settled, and is, as shown in my "Study of the Manuscript Troano," pp. 136-140. There is one possible exception to this rule found in what we may call part second of the Dresden Codex to which plates 70-73 of Kingsborough's copy belong. The reading here appears to be from the right to the left, while in the other part of the work—except plates 24, 61 and 62, and possibly 46-50, and 74,—the order is, beyond controversy, by columns and from left to right. Similar changes in direction are not uncommon in the Mexican manuscripts.

I think I have determined by study and comparison that—as has generally been supposed,—the texts, in most cases at least, refer to the figures over which they stand. On this is based our chief hope of interpreting these characters.

My method of proceeding in attempts at deciphering is as follows: I discard Landa's alphabet as unsatisfactory for this purpose, relying on the few characters whose phonetic value I think I have ascertained by careful study and numerous comparisons, as a basis. For example, the character for 20 being known, I assume that it is phonetic, then hunt over the codices for the places where it is inserted in the text, especially where it appears to be used in combination with other characters to indicate some object figured in the same compartment. If I find that the Maya name of the figured object includes the phonetic elements of the word for twenty (*Kal*), this is taken as an indication that I am on the right path. If repeated and different combinations give similar results the theory is proportionally strengthened.

In this way I have interpreted satisfactorily to myself, some twelve or fifteen compound characters which appear to be phonetic. But while I am convinced that many, probably the larger portion of these characters are phonetic, it is certain that quite a number are but symbols or conventional figures. Some of the latter by their connection with other characters and evident relation to accompanying figures can readily be determined. Several of these are named by Leon de Rosny in the vocabulary to his edition of the Codex Cortesianus.

My study of the Mexican Manuscripts has been incidental to my other work, and up to this time has been limited almost exclusively to those known as the Borgian and Fejervary Codices.

The general signification of many of the plates of the former is, I think, easily determined. I have not seen Fabrigat's explanation of this Codex, which exists only in manuscript, hence I may give some interpretations already known.

As is well understood the five horizontal lines of small colored figures running through the middle of plates 31-33 are symbols of the Mexican days arranged in consecutive order so as to rep-

resent the complete cycle of two hundred and sixty days or thirteen months.*

This calendar is to be read from right to left, commencing with the first (right hand) figure of the lowest of the five lines on plate 38, running thence toward the left, back to the last (left hand) figure of this line on plate 31. We then go back to the first (right hand) figure of the fourth (next to the lowest) line on plate 38, and run back to the left of plate 31, and so on, ending with the left hand figure of the upper of the five lines on plate 31. The foot-prints marked at intervals along these lines possibly indicate the positions of the so-called "Lords or Rulers of the Night."† The two lines of larger figures, one above and the other below this series, I am inclined to believe are symbolic representations of the remaining days of the year.

A figure and partial explanation of plate 43, on which there are four large serpents forming four squares, in which are various symbolic figures, will be found in my paper in the third Annual Report of the Bureau of Ethnology, to which the reader is referred.

Plates 45-54 form one continuous and unbroken series containing in consecutive order the two hundred and sixty days of the cycle, and symbolic representations of characteristic features of the twenty Mexican weeks. The order in which these are to be taken, though not peculiar is unusual,—it is as follows: commencing with the lower half of plate 54, which represents one week, we run back towards the left through the lower halves of the pages to plate 45, thence pass to the upper half of this plate (45) and run to the right through the upper halves, ending with the figures on the upper half of plate 54. That this is the order in which these figures are to be taken is ascertained by the succession of the day symbols. In the lower halves of the plates these run horizontally along the bottom of the page to the left, then up the left side to the middle of the page, from whence we go to the lower line on the next page to the left; and so on to plate 45, where we pass to the upper lines. On the upper halves these day symbols run horizontally along the central line to the right and then up the right side.

The chief or general signification of some of the figures in the squares or compartments can be determined with reasonable certainty. For example, those in the lower half of plate 54 show that the season is yet sufficiently cold to require fire in the houses, which is indicated by the smoke escaping through the roof of a house.

Passing toward the left through the lower halves I find denoted on plate 50, as I think, the commencement of the rainy season;

*The reader is presumed to know that the Mexican and Maya years consist each of eighteen months, the months of twenty days each; and the weeks of thirteen days each. Also that in both calendars there are four series of years bearing different names.

†See Bancroft's Native Races, Vol. II, pp. 515-516.

on the next plate (49) are indications of the budding and flowering of plants. In the next (48) Tlaloc, the god of rain, appears with increased vigor and the flooding of the streams is manifest; in the next (47) the growth of the Maguey plant and the time of making *pulque* are indicated; in the next (46) we see the continuation of the rainy weather and the beginning of the sickly season denoted; and in the next (45) the result,—death appears and the victims are consigned to their graves.

Passing to the upper half and running to the right through the plates I find nothing I can interpret until I reach plate 49, which I think indicates the season for cutting timber and building houses. Plate 51 (upper half) probably represents the season for hunting game, especially the wild turkey; and 52 is the return of cold weather when fire is again necessary.

The chief difficulty in the way of this interpretation is that the number of days in the series as here given, is but two hundred and sixty, a little less than three-quarters of a year—but the same difficulty arises in attempting an explanation of the *tonalamatl* or calendar on plates 31–38, heretofore alluded to.

Plates 1–10 which are to be taken in the reverse order to the paging are probably cosmogonical. 10 and 3 appear to be fanciful symbolic representations of the home and origin of the winds and clouds. In these the central idea seems to be that the winds have their origin in the clouds, but they appear to be in some way connected with death and the under world. We observe in the broad border of plate three (which extends into plate two) the four birds so frequently connected with crosses in these codices, and, what is strikingly significant, at one point in this border, three small but regularly formed Greek crosses.

In plate nine the chief idea is rain. The broad surrounding band forming the square has a Tlaloc head in the center of the top line, the body or band having the outer portion of clouds from which the rain drops are falling towards the center or inner space. In the inner space of the inclosed circle are two wind symbols; in the four corners outside of the circle are four Tlalocs, three of them bearing crosses and one a water symbol.

Plate 12 represents Tlaloc in various aspects having some reference to the four years or series of years of the Mexican calendar. But the important thing found on this plate is, that here we have clearly indicated the days with which the years respectively begin—*viz.* the Acatl (or cane) year with Cipactli (or dragon); the Tecpatl (or flint) year with Miquiztli (or death); the Calli (or house) year with Ozomatli (or monkey); and the Tochtl (or rabbit) year with Cozcaquauhtli (or vulture), precisely as I have given them on page 32 of the third Annual Report of the Bureau of Ethnology.

I am aware that only readers who have access to copies of the codices will take any special interest in these discoveries, but the

AMERICAN ANTIQUARIAN can afford to be the medium of occasional communication to the few workers in this particular field.

CYRUS THOMAS.

NOTES ON NATIVE AMERICAN POTTERY.

The Pueblo Indians of New Mexico and Arizona have for centuries manufactured a fictile ware which differs widely from the ceramic productions of any other people. It is characterized by a peculiar gloss or lustre, not found in the pottery of other tribes, and also by a distinctive style of ornamentation, which, while lacking the essential features of artistic conception, possesses the merit of originality and frequently produces a pleasing effect. The modern ware is generally decorated with intricate geometrical devices, ornamental combinations of straight and curved lines, and paintings of animals, such as the deer, elk, bear, squirrel, ser-



Fig. 1— $\frac{1}{4}$ Size.

pent, frog, dragon-fly, tadpole, etc., which are almost invariably represented with a triangular heart connected with the mouth by a narrow passage. In the majority of the Pueblo villages water-vessels are made in the form of animals or birds, as may be seen in the accompanying engravings from the Second Annual Report of the Bureau of Ethnology, being representations of specimens now in the National Museum at Washington, D. C. The first illustration represents a modern Zuni meal-jar or water-bowl of common form, divided into three horizontal zones by plain lines of black pigment. The decoration in the two lower zones consists of conventional floral designs with figures of animals, probably

intended for sheep. Fig. 2 represents a water-bottle from Laguna in the form of a ram, with the orifice in the top of the head.

The engraving is $\frac{1}{3}$ the size of the original. In this and the two succeeding examples utility has been sacrificed for ornamental effect. Such vessels are obviously difficult to carry. In many such specimens a semi-circular handle, something like that of an ordinary flat-iron, is attached to the upper portion. I have before me



Fig. 2.

a small vessel of this character fashioned in imitation of a sitting duck with a circular handle attached at the neck and tail. The same idea is carried out in Fig. 3, from Zuni, represented $\frac{1}{2}$



Fig. 3.

natural size, which has been made in the semblance of an Indian moccasin, with a handle at the heel. On each side is a painting of a female deer, but, in this instance, without the triangular heart. Fig. 4 is an engraving of an unusually fine specimen of Zuni

work representing a mother owl with three little ones perched on her back, also reduced to $\frac{1}{2}$ the size of the original. The owl is frequently represented in the ceramic productions of these people. Vessels, however, are manufactured in a countless variety of forms. In a general way, it may be said, the most prominent distinguishing characteristics of modern Pueblo ware are the animal decorations with triangular hearts, painted on plain vessels, and the moulding of vessels into animal forms. A type of the most common form, probably, is Fig. 1. Globular, canteen-shaped bottles, with flattened backs, and a looped or ear shaped handle set perpendicularly on each side, are, perhaps, almost as common in daily use. The ancient Pueblo ware, found in the debris of ruined buildings, however, while of similar quality and character, differs from the

modern considerably in the form of the vessels, and is seldom found with the animal decoration.



Fig. 4.

One of the most characteristic forms of the ancient ware, which I believe, seldom, or never occurs in the modern manufactures, is the beer-mug form,—a straight cylinder with handle extending the entire length of one side, large enough for the insertion of the hand of the drinker.

Let us now turn to the pottery of ancient Mexico. This is as truly characteristic as that of any other American people but is less abundant in collections, and is not so varied in form or ornamentation as that of ancient Peru. The most abundant variety is made of terra-cotta, colored black, and usually ornamented in the most elaborate manner

with serpents, idols, and grotesque creatures, in relief, and often possessing feet on which to stand. The finest example, however, which has come under my notice, is the beautiful vase or jar

which was found in a deep cutting of the Mexican National railway near Toluca and deposited in the Metropolitan Museum New York, by Dr. Robert H. Lamborn. It is twelve inches



Fig. 5.

es in height, and of a bright yellow ware, exceedingly fine and smooth.

Fig. 5 presents two views of this interesting specimen. A noteworthy feature is the peculiar ringshaped ear ornament, similar to those which occur in a clay mask from Central America and a unique stone pipe from Ohio, both



of which are owned by Mr. Andrew E. Douglass, of New York City.

The pottery of Central America, particularly Costa Rica and Nicaragua is best known by its tripod vases and shoe-shaped burial urns.

In Peru the Ancient ware varies according to its age and the locality where it is found. Many sections or provinces possess their distinctively marked varieties. In the region north of Lima the most thoroughly explored cemeteries are those of Samanco, Chimbote, Chepen, Nepena, Cajamarca and Trujillo. The pottery from these places is generally of a fine-grained, light clay—mostly red but sometimes black. In those jars moulded to represent the human form the heads and faces are usually well executed but the bodies and limbs are contorted and disproportionate. At Recuay, north of Lima, one hundred and sixty vases were dug up recently which exhibit some remarkable peculiarities. They



Fig. 6.

are all made of the finest white or light red clay with ornamental figures of animals, etc., in black and red. The faces of the men are peculiarly uniform in outline, being represented with large aquiline noses, wide mouths and thin lips, entirely different from similar representations found in other localities. This ware is believed to be older than that found at Trujillo, Ancon, etc., and is probably pre-Incarial. At Ancon a most beautiful variety of ware has been found, with pleasing chequered ornamentation in red and white. The characteristic form is that of the ancient Greek Amphora, tall and slender with pointed base, small vertical ear-shaped loops at the neck and an extra

and larger horizontal handle midway between but lower down on the body. The finest example of this form in the United

States is probably that in the Vaux collection in Philadelphia, which is three or four feet in height.

Portrait vases from Trujillo and other cemeteries are models of artistic workmanship. Some of these are simply heads open at the top, whilst others are surmounted by a syphon shaped tube, answering the purpose of a spout and handle. These were probably used as drinking vessels, somewhat similar in design to the ancient Greek Rhyton. Many, if not the majority, of these syphon-handled vessels, with plain, globular bodies, are embellished with a minute figure of a monkey in relief, placed in the angle of one side of the terminal spout.

In the basement of the Metropolitan Museum may be seen a most exquisite water-bottle of this form. The ground is of a rich, ivory white and representations of warriors with javelins



Fig. 7.



Fig. 8.

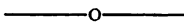
and shields and artistically painted on the sides, in dark red. There are also in the same collection two finely modelled portrait vases, one with a syphon spout and the other of the same character, moulded in the form of a human figure with crossed legs. A particularly interesting example in the same case is the vase (evidently intended as an individual portrait) representing a human head with one blind eye, somewhat similar to the example, here figured (Fig. 6, p. 79), from Dr. Jose M. Macedo's collection, in Lima. In a neighboring case is an unusually fine black vessel moulded in the shape of an alligator and measuring over a foot in length. Much of the black ware of the Incas was decorated in low relief, with engraved or etched figures produced by means of sharp instruments after the pottery had been dried. A vase of this character (see Fig. 7, p. 80) is in the National Museum at Washington. It is ornamented with figures of birds and fishes, the handle being moulded in imitation of a monkey. In Fig. 8, p. 80, three portrait vases from the Macedo collection are represented, one of which is a laughing face and another a caricature of old age. The upper figure represents one of the syphon vases with the upper portion of the spout wanting. A considerable number of vessels in the form of fishes, generally of black ware, have been found in old Peruvian burial places, such as the example represented in Fig. 9,



Fig. 9.

which is also in the collection at the National Museum. Two similar examples are owned by the Numismatic and Antiquarian Society of Philadelphia. Large and valuable collections of American pottery may be seen in the public museums at Washington, Cambridge, New York, and Philadelphia. It is a matter of much regret that these cannot be united into one magnificent collection and so arranged that students may, under one roof, be enabled to compare the best examples from different localities and study their peculiarities, without incurring the expense and being subjected to the inconvenience of traveling from city to city. Possibly, at some future time, such a desirable state of affairs may be brought about.

EDWIN A. BARBER.



PERMANENCY OF IROQUOIS CLANS AND SACHEMSHIP.

For some time it has been claimed that the Iroquois tribal system evinced wonderful foresight, and that the names and apportionment of the sachems continue as they were at the first. We are asked to believe that a savage or two, some hundreds of years ago conceived and established an intricate political and social system, with wise checks and powers, needing no improvement, and perfectly adapted to every emergency. Wise regulations there were, but their antiquity and origin may well be called in question. Impressed with the practical nature of much that is real, we might be carried away by enthusiasm, and find more permanence and far-seeing wisdom than actually exists. This appears in the descriptions of the totems and tribes, and the limitation and perpetuation of the sachem's office. The tribal division is indeed curious and interesting, without going to extremes, but too much has been claimed for it.

The Iroquois confederacy seems originally to have been a loose union of the Five Nations, gradually becoming firmer. When Champlain went against the Onondagas in 1615, there was no fear that the neighboring Oneidas would come to their aid. When the French colonists set out from Quebec, in 1656, the Mohawks maltreated their Onondaga escort, and the fear of a war with that nation alone moderated their violence. In return the Onondagas plundered a party of Mohawks farther up the river. The same year the Onondagas convoked the allied nations "to reconcile the Mohawks with the Senecas, who were on the point of commencing a war." The powers of the Grand Council at first were very limited. "Every year they hold a general assembly at Onondaga, where all the deputies of the other nations meet to make their complaints, and receive the necessary satisfactions,

by mutual presents, by which they best keep on good terms with each other." Every nation made war or peace for itself. The Grand Council simply removed grievances, though sometimes, and gradually more and more, treating of general perils and advantages.

Aside from this were Iroquois institutions permanent? No one who studies the history and customs of that interesting people can well assert this. When we remember the many things influencing them within and without, we are prepared for great changes. Wampum belts and strings appear in all their treaties in historic times, and yet it is certain there was an earlier period when they knew nothing of Wampum. It is an absurdity to date any existing belt as early as the formation of the league. The pipe of peace is popularly supposed to have figured in all their councils, as smoking certainly did, but there was a time when the striking features of the calumet seem to have been unknown to them. As late as the early part of the last century some western Indians explained the meaning of the pipe of peace as though it were new to the N. Y. Indians. Their burial customs changed greatly, and their present feasts and dances are not those of the olden time. The great white dog feast is its leading features seems to have been known only to the Senecas 100 years ago. The Jesuits first, and Con-ya-tan-you afterwards twice revolutionized their religious system. Their mode of building degenerated according to Charlevoix. The early and late stockades were not alike, and the use of guns changed warfare. They no longer wore defensive armors or depended on bows and arrows. Clothing and cooking varied as well as agriculture.

All these things happened naturally. They were in constant intercourse with the French and English and at war with distant nations. They not only saw many tribes and customs, but they adopted other Indians by hundreds. Large villages of the captive Hurons were placed among the Cayugas and Senecas, and hundreds of Hurons, Neutrals and Eries were received by the others. In later days one object of war was to strengthen themselves by adopting captive warriors. To say that all this produced no change in laws and customs, is to fly in the face of all experience. The wonder is that anything of Iroquois character remained.

The Totemic Bond as it is sometimes called, has naturally awakened admiration by its results. In a broad way it may be said that in each confederate nation were certain tribes or clans, who were brothers wherever they met. The Mohawk Bear was received and aided by the Cayuga Bear; the Oneida Turtle by the Seneca Turtle. In each nation some tribes of differing totems were also brothers. These things caused a bond which was not merely national, which strikes us as a very wise plan if there were not more of accidents and afterthought than of actual design found in it. But tribes and totems varied in the different na-

tions, and what becomes of original design when a tribe in one, finds no corresponding tribe in another? In the natural course of events, there soon begins another change.

Were these tribes the same at all times? In his "League of the Iroquois," Mr. L. H. Morgan announces eight tribes for each nation in a general way, divided into two brotherhoods. The Bear, Wolf, Turtle and Beaver form one; the Deer, Snipe, Heron and Hawk form the other. Some writers make one class superior to the other, considering its numbers alone eligible to office. Mr. Morgan makes no such distinction, and indeed assigns the sachemships among the Onondagas and Senecas to seven tribes, existing when the league was formed. In his list the fourteen Onondaga Sachems of the Grand Council were of the Wolf, Bear, Beaver, Turtle Snipe and Deer tribes, while the eight Seneca sachems were of the Wolf, Bear, Turtle Snipe and Hawk; and in these clans, he says, they were perpetually hereditary. His exact division gives the Mohawks and Oneidas three tribes each; the Onondagas, Cayugas and Senecas, eight tribes; and the Tuscaroras seven. This does away with any true plan, for wise design would not have left five tribes without members in two nations.

Mr. Morgan may be right when he says that the Totemic Bond "furnishes the chief reason of the tenacity with which the fragments of the League still cling together," though what bond exists between the Seneca Deer and any tribe of the Mohawks he does not state; but he is too enthusiastic when he adds, "The history of the Ho-de-no-sau-nee exhibits the wisdom of these organic provisions; for during the long period through which the league subsisted, they never fell into anarchy, nor even approximated to dissolution from internal disorders." If they did not, we have already seen that it was because the Grand Council settled disputes, not because of the mutual affection of the separated clans. To my mind these were accidents, not wise organic provisions. At a later day the Canadian Mohawks refused to fight the Eastern Iroquois, but their scruples vanished when they were led against the Senecas. Nationality was stronger than clanship.

Indian statements and traditions are conflicting, and often worth very little, but if it is true that "tradition declares that the Bear and Deer were the original tribes, and that the rest were subdivisions," this in itself implies change. When Mr. Morgan first wrote, the clans were more in some nations than he seems to have known, and have been even greater in times past. He did not then mention the Eel tribe, now the largest clan of the N. Y. Onondagas. In his "House Life" he gives quite a different list. That of the Tuscaroras is not like one furnished me by an intelligent Indian born and bred among them. The Eel is mentioned among the Onondagas, Cayugas and Tuscaroras. The Ball is substituted for the Hawk among the Onondagas, doing away with both the Eagle and Heron. If such changes have occurred in

the clans, it is probable that the sachemships have in no way changed? And then it may be asked, are these lists reliable?

I am told that all of the Eel clan, living among the Tuscaroras are actually Onondagas; that the Bear clan has ceased to exist on the N. Y. Onondaga reservation, although this may be a mistake; and that the Ball clan never had an existence. Mr. Morgan's error in this seems to have come from one of the varying Hiawatha legends. In this he came to a party of Oneidas, resting by a large stone, and he said: "These are the People of the Stone." The next party sat under a spreading tree and he called them the People of the Great Tree. At the first village of the Onondagas all were playing ball and were named accordingly; the next were on a hill-top, and they became the People of the Hill. This seems to be all there is of the Ball clan.

In writing on Iroquois customs in 1771, Sir William Johnson said, "Every nation is divided into a certain number of tribes, of which some have three, as the Turtle, Bear and Wolf; to which others add the Snake, Deer, etc.; each of these tribes form a little community in the nation, and as the nation has its peculiar symbol, so each tribe has the peculiar badge from whence it is denominated, and a sachem of each tribe being a necessary party to a fair conveyance, such sachem affixes the mark of the tribe thereto." He seems to say that sachems were chosen from all the tribes. The principal ones may have been intended, for at a council held in Albany in 1700 at which a multitude of sachems were present, a business conference was held with some apart from the rest. They brought in others, saying that "all business of moment was to be transacted by the three ensigns that the five nations consisted of, to-wit: the Bear, the Wolf and the Turtle; and therefore one from each of these tribes or ensigns in each nation was to be present."

Yet in Morgan's list the Cayugas had no sachem of the Wolf tribe. So also, the Seneca sachem, Kanakarighton, who signed the important deed of 1726, seems to have been of the Heron tribe which this list does not credit with a sachemship, and in another treaty the same totem appears. In the treaty made between the French and the four western nations in 1665, the six Onondaga ambassadors affixed "the distinctive mark of their tribes the Bear, the Wolf and the Tortoise." Ten Seneca and ten Oneida ambassadors ratified the same treaty, being necessarily sachems.

In the N. Y. Doc. History, Vol. I., p. 3 under date of 1666, a French writer describes nine Iroquois tribes, with illustrations. The Tortoise, Wolf, Bear and Beaver are the first division, called four tribes, the Deer, Potato, Great Plover, Little Plover and Eagle are the second, called five tribes. This is much like the present Long and Short House of the Onondagas. The animal of the tribe was painted in the gable end of the cabin, in black or red. In national councils one division ranged itself on one side

of the fire, the other being opposite. A warrior tattooed himself with the signs of his nation and tribe, and lastly with his own mark.

Time brought changes, and twenty years later a Frenchman, adopted by the Senecas, gave another enumeration. "The five villages which belong to the same tribe, have for their arms in common, the Plover, to which I belong; the Bear, the Tortoise, the Eel, the Deer, the Beaver, the Potato, the Falcon, the Lark, and the Partridge." These are ten in number, and some appear in no other list. The Wolf is left out and one of the Plovers, the Eel, Lark, and Partridge are introduced. There is doubtless an error here in omitting the Wolf, but it seems certain that new clans were growing up. No mention is made of the Heron.

In Clark's History of Onondaga, eight are enumerated, the four superior tribes being as usual; but he adds that "the inferior clans, are the Deer, Eagle, Heron and Eel, from which civil chiefs may not be elected." He probably reckons both the Snipes or Plovers under one head, as the Heron; a clan of which accounts are confusing. The Onondagas disclaim it. The Potato tribe seems to have disappeared altogether. Mrs. E. A. Smith gives the division of the Onondaga clans for the games, as uniting on one side, the Bear, Deer, Eel and Hawk, against the Wolf, Beaver, Snipe and Turtle.

At no time does there seem to have been more than the Bear, Wolf and Turtle tribes among the Mohawks, and these at first dwelt in separate villages. It is now understood that the Lark and Partridge have been in some way introduced among them. An Oneida chief tells me there are but the Bear, Wolf and Tortoise among the Oneidas now.

One striking feature of the Iroquois totem system was, that members of a clan must marry into another, the children being of the mother's tribe. Yet the Oneida chief mentioned, whose father was an Onondaga of the Snipe tribe, calls himself a Snipe, and is so considered. Some assert that the originally superior and inferior clans could not marry into their own class with the awkward consequence, that the three tribes of the Mohawks and Oneidas could not marry at all.

The system of Iroquois sachemships has been represented as inflexible and commemorative in names and numbers. Doubtless there has been some attempt at both but without full success. Under the circumstances we reasonably look for changes from time to time. Morgan's scheme, obtained at a Grand Council, makes fifty sachems form the Grand Council, all permanently assigned to certain nations and clans. According to the original compact, he says, two of the first Mohawk sachems had no successors, reducing their representation to seven, and making the whole number forty-eight. Of these, three tribes of the Mohawks had nine; three of the Oneidas, nine; five of the Ononda-

gas, fourteen; six of the Cayugas, ten; five of the Senecas, eight; leaving the Tuscaroras unrepresented. In considering this, one statement of his becomes important. He says, "The several sachems, in whom, when united in general council, resided the supreme power of the League, formed, when apart in their own territories, the ruling bodies of their respective nations. * * *

The nine Mohawk sachems administered the affairs of that nation with joint authority, precisely in the same manner as they did, in connection with their colleagues, the affairs of the League at large." When we remember what the original powers of the Grand Council were, this seems hardly correct.

Were these offices thus unchangeable in number and apportionment? I might refer to the present condition of the Onondagas, but it might be hardly fair, so much are they changed, and so little do they know of their own laws. It will be better to turn to history. At a council in Albany, June 2, 1691, the names of six Oneida sachems present, were recorded; of eleven Onondagas, four Cayugas, and eleven Senecas. On September 4, of the same year, two other Oneida sachems were present, and six Senecas from another castle, making seventeen Seneca sachems acting in a council far from their homes, where Morgan's list makes the full number but eight.

At another council held in Albany, August, 1700, there were in attendance eleven Mohawk sachems, six Oneidas, eleven Onondagas, eleven Cayugas, and eleven Seneca sachems, besides many young Indians. This gives sachems in excess of the list to three nations. Still farther, when Lord Bellomont asked these fifty sachems whether they would name the sachems to select a place for a fort at Onondaga, they answered, "that they could be better named at Onondaga, where there were a great many." At the same time a sachem from each of the four western nations was in Canada.

Major Dirck Wessell's journal at the council at Onondaga, in August, 1693, would seem conclusive as to the large number of its members. He persuaded the Mohawks not to attend the council, so that but four nations were present. The whole house met, and "there being eighty sachems present, Kajarsanhondare made answer." This can only be understood of the Grand Council as constituted two hundred years ago.

In 1694 the Onondagas said they had sent nine sachems to Canada with nine belts, and were uneasy at having trusted almost half the sachems of their nation with the French. At Col. Schuyler's visit in April, 1700, twelve Onondaga sachems are mentioned by name, and their speaker Aradji said, "most of the sachems of this castle are abroad."

At a conference in July, 1701, nine Mohawk sachems were present, and twelve Onondagas, while some sachems of the latter were in Canada. The following year, while eleven Onondaga sa-

chems were at Albany, nearly as many were with the French Governor.

The modern list gives the Senecas eight sachems. In May, 1720, Myndert Schuyler held a conference in the Seneca country. When he reached there, some of the sachems were abroad, and these, and those at Onaghee were sent for. Four came from Onaghee but wished to consult again with the sachems remaining at their own castle. At the request of the commissioners they restored a former sachem. It seems unfair to consider the full number less than twenty.

King Hendrick's example might be cited, he having been deposed, and some years later restored; a thing not easily done if the number were absolutely fixed, for what place could he fill? All these things seem conclusive in proving that the number of sachems was variable, larger than now represented, and on a different apportionment.

Were the transmitted or conferred titles permanent? Several writers assert that they are the same that they were in the beginning, as we doubt not some of them are. There is evidence on the other side, as in the treaty of 1664, leaving out the names by which sachems were commonly known. In June, 1701, Onondagas and Cayugas both acquainted the Council with the deaths of chief captains, and appointed others with the same names, but these names do not appear in the modern lists. The same was the case when the chief sachem of Cayuga introduced two new Seneca sachems to Sir William Johnson in 1750, and pronounced their new titles. They are not on the list of the supposed original sachems.

On the choice of sachems Sir William Johnson remarked in 1771, that they "are usually chosen in a public assembly of chiefs and warriors whenever a vacancy happens by death or otherwise. They are generally chosen for their sense and brave from among the oldest warriors, and approved of by all the tribe on which they are saluted sachems. There are, however, several exceptions; for some families have a kind of inheritance in the office, and are called to this station in infancy." He clearly distinguishes between sachems and chiefs.

Essentially Mr. Morgan takes much the same view of changes, when, admitting the necessity of raising up chiefs without limitation of number, he says that now "they have raised themselves to an equality in many respects, with the sachems themselves." He says also of the Tuscaroras, that "they were never allowed to have a sachem who could sit as an equal in the council of sachems." But, he adds, "They also enjoyed a nominal equality in the councils of the League, and their sachems were raised up with the same ceremonies. This seems a distinction without a difference. As early as 1722 the Tuscaro-

ras became parties to a treaty establishing peace, and regulating boundaries, and they always appear afterwards.

As the line of descent is through the mother, it is often said that the son of a sachem or chief cannot be a chief, but, Kakedoa, the son of Bunt, chief sachem of Onondaga, was introduced to Col. Guy Johnson as a sachem, one of the great men that ruled over them. At the same time eleven recently appointed Onondaga sachems were present. Other like historical instances occur. In a case under my own eye, a father, son and grand son have successively been prominent chiefs of the Onondagas, the last two at least, members of the Grand Council.

Mr. Morgan says, on this point, "Logan was one of the ten Cayuga sachems, but which of the ten names or sachemships he held is not at present ascertained. His father Shikellimus or Shikalimo, who is usually mentioned as a Cayuga sachem, was but a chief." This seems mere assertion, and as Shikellimus was Executive Deputy of the Iroquois Grand Council at Shamokin, and as such ruled the Delawares; it is improbable that he was not of the highest rank.

My own experience is, that the Iroquois themselves are not very clear as to their own usages, and their ideas of antiquity are little to be trusted. The facts stated, plainly show that the number and names of the sachems have not been the same at all times; that hereditary rights must be understood in a general way; and that the varying division into clans was rather accidental than the result of wise forethought.

There remains but one question more. Have the original ceremonies for raising sachems come down to us? This is impossible, unless in a general way. One tradition is, that at one time no one could recall them except one old woman. Wampum entered largely into those ceremonies, and no wampum is found on prehistoric Iroquois sites, though something might have supplied its place. But we find from time to time evident changes. French and English governors had something to do with the appointment and institution of sachems. When Hendrick and another sachem were killed, both were mourned, but only one new sachem was at once raised up. Sir William Johnson could not attend, though his presence was desired, but sent the necessary belts, and asked the Mohawk sachems to act for him. The Oneidas and Tuscaroras alone condoled with the Mohawks at this time, and they complained that the Onondagas, Cayugas and Senecas had passed by without attending. The baronet spoke of their customs, and the rules laid down by their wise ancestors. The same month he condoled the dead and replaced them with prisoners, the account concluding with these words: "Thus ended the ceremony necessary on those occasions, agreeable to their customs."

When, a little later, the Canajoharie Mohawks presented one

of their most capable men to succeed Tarrachioris of the Turtle tribe, as sachem, Sir William Johnson said, "I now, in the presence of your whole castle, invest him with all the powers of a sachem, and put on him those necessary marks of distinction which I wish him long life to wear." This, however, was aside from their own ceremonies of mere condolence, but was accepted as an institution into office. Among themselves condolence and raising of sachems did not always go together. They mourned Hendrick, but chose no successor at once.

Several times we have accounts of institutions in full council, in the simplest possible manner. The announcement of the choice and title, the giving of a little wampum to each nation, ended the matter. When Johnson began to clothe and adorn the newly chosen sachems, a desire for a more elaborate ceremony sprang up, and may have partially crystallized into permanent forms.

The condoling ceremony in which the baronet shared at Onondaga, at the death of Kaghswoughtiooni, chief sachem of that nation, is interesting, and may be compared with other like occasions. Three Cayugas met him a mile east of the castle, "to settle the formalities of the condolence, agreeable to the ancient custom of the Six Nations." This took two hours, though Sir William and the sachems of every nation had prepared proper speeches, and chosen proper belts for the ceremony, three days before. The baronet "marched at the head of the sachems singing the condoling song, which contains the names, laws and customs of their renowned ancestors, and praying to God that their deceased brother might be blessed with happiness in his other state. This ceremony was performed by" Mohawk and Oneida sachems. When they came in sight of the castle they saw the silent warriors and sachems sitting in a half circle across the road. Here the condoling song was sung by the visiting sachems, and those of Onondaga shook hands and welcomed them to their town. Sir William marched at the head of the warriors, the sachems falling behind and continuing their song. Within the gate salutes were fired, and "the sachems proceeded to a green bower adjoining to the deceased sachem's house, prepared on purpose." When they were seated the baronet was sent for, and addressed them.

The next day the full council met, with Sir William at its head for the grand ceremony, which was performed by Old Abraham the Mohawk. First, a large belt covered the grave; a second belt comforted the relatives; a third admonished the surviving councillors to maintain the covenant with the English; a fourth dispelled the clouds of day; a fifth scattered those of night, when sessions of the Grand Council were held. "These compliments of condolence were enforced by 11 belts and 3 strings of wampum, and a scalp of the enemy to replace the deceased, and with

a glass of rum round to wash down all sorrow and grief, the whole ceremony of condolence ended." This was the Iroquois condolence for a great sachem in 1756. Was it thus ordered by the first sachems? and is it thus performed now?

In 1768, the younger branches of the confederacy, the Oneidas, Cayugas and Tuscaroras, went through the whole ceremony of condolence with the elder branches, the Mohawks, Onondagas, and Senecas, on the death of a Mohawk sachem. This was somewhat different from the other, where the brotherhoods were not clearly distinguished.

When Col. Guy Johnson took his father's place, and the Indians gave him a new name, the Onondaga speaker proclaimed it, after the chief sachem of the Mohawks had announced that the Six Nations had agreed on his title in private conference. Col. Johnson stood up, and the name was repeated by a chief of each nation; it was directed to be proclaimed in every castle, and the ceremony concluded with the customary Yo-hah.

This was very different from the quiet ceremony by which Shikellimy and his son adopted and named the three Moravian missionaries, by the light of the camp-fire, in the pathless forests of Pennsylvania. This was in May, 1745. We hardly understand how the adoption could have been as it was, since Shikellimy and his son were Cayugas, and by them Spangenberg was received into the Bear clan of the Oneidas, and Zeisberger into the Turtle clan of the Onondagas. Certainly the Cayuga chief must have been of the highest rank to have done this. Later adoptions have been conducted in various ways; ways of which Hiawatha never could have dreamed.

Such changes were to be expected among a people who depended solely on tradition, and whose traditions and customs were subjected to such violent strains. Giving them all due honor for much practical wisdom, let us not ascribe it all to the founders of the League, but recognize the fact that there may be advancement among savage as well as civilized men.

W. M. BEAUCHAMP.

THE DAVENPORT TABLETS GENUINE.

In the January number of the AMERICAN ANTIQUARIAN, appears an elaborate editorial article, of ten and a half pages, entitled, "Are the Davenport Tablets Frauds?" and seeking to create suspicions which shall detract from the importance and value of these specimens as archaeological discoveries.

The paper opens with the remark that "the discussion over these tablets does not now seem likely to cease until the mystery about them is cleared up."

It is proper to state here that there is not, and never has been the slightest "mystery" connected with them. Not only so, but all the circumstances were exceedingly commonplace; the articles were found exactly as all the other mound relics were found, by the usual method of exploration of mounds; there was no obscurity, there was no reservation, secrecy or peculiarity in the work or in the accounts given, no especial prominence was given them by us; they were described in the same plain, straight-forward and simple manner as were the copper axes, and bone, shell, horn, flint and other relics.

The attack begins with lengthy quotations from our published accounts, and we are told that the clauses indicating the points the author has in mind are "put in italics," so we look out for those, and find them rather curiously distributed.

It is thus shown—page 46—that there was a layer of shells a foot or two below the surface of Mound No. 3, and "a second layer of shells" a foot or two below the first. That *above the first or upper layer*, were some bones, and "associated with these bones" were "a few glass beads *and fragments of a brass ring.*" Also, that *below the second or lower layer* of shells was a stratum of *loose black soil.*" This must somehow be made to look suspicious and he comments upon it thus—"12) that fragments of a brass ring" and other articles "were scattered through the *loose black soil.*" Now, he had already seen and shown that said fragments of a brass ring were *scattered far above* the loose black soil, and two layers of shells intervening; and that they were with the other relics of an intrusive burial. By what "scientific" legendman said fragments are transferred to the bottom of the mound we are not told; the object, however, is sufficiently apparent, but notwithstanding a free use of italics it will prove a dismal failure.

The matter of "a small collection which as was afterward observed, were more numerous than the *middle of grave B.*" is needlessly misinterpreted. Let us examine. The upper shell layer "sloped downward toward the southeast." The second layer was in a sloping position parallel with the first, and "these indications

caused us to continue our excavation in this direction "(i.e. south-east)" and so we reached the north-west corner of grave B." The opening was commenced about six feet north-west of grave B. Hence it is plain that at that time the space over the middle of grave B was not disturbed, which shows *why* the stones there were not observed until afterward. Could not our critic see this? We might inform him that in this latitude, on high and open ground it is not very dark half an hour before sunset. In the "further exploration" a day or two later, the stones were observed over the middle of grave B, because that part was dug out then and not until then.

The next italics met with are thus: "(4) that *coal slate* lay in the immediate vicinity of the tablets." How this indicates a "plant" or why "intruders" should be more likely to scatter fragments of coal slate than an honest party burying the bones and relics we are not informed. Concerning the ease with which the tablets could have been—surreptitiously—placed there without detection it should be noted that the shells of both layers were much decayed, and crumbled on being handled, yet there was not a fragment of shell to be seen among the earth either above, below, or between the layers, showing absolutely and conclusively that these layers, which extend quite over and beyond the excavations or "graves" where the relics were found, *had not been disturbed*, and of course the mound could not have been penetrated without disturbing them.

And further, the mounds are situated in a public and sightly place, and Mound No. 3, highest of them all, in full view of several dwellings within a short distance in different directions, and but a few rods from a quarry where a number of men were constantly employed, and the road over which teams were almost continually hauling stone, passes quite near. Under these circumstances it is easily seen that it would be simply impossible for persons to perform a long and tedious work in the mound, unobserved. When we take into consideration the amount of excavation and careful exploration requisite to discover the internal structure of the mound, and to *learn where to place the articles*, the absurdity is so palpable that it is simply amazing that any intelligent or prudent writer could be found who would venture to commit himself to such a suggestion or to the advocacy of it.

In quoting from Dr. Farquharson that the material of the tablets "crops out in various places in this vicinity" our candid and careful critic does not see fit to include his further remark "the substance of which they are composed is equally abundant in very many other places, indeed wherever coal is found."

He also italicises Dr. Farquharson's remark that the tablets apparently "*had not weathered much*," and doubtless thinks it strange that they should not have weathered rapidly while buried

six feet deep, i. e., in the most perfectly protected situation possible.

At the top of page 52 the author makes one of his strong points thus: "The moon has a face in it" . . . "the reverse of what is common among the ancient races, for everywhere in *pre-historic* American Art the sun has the face in it, and not the moon."

Dr. Cyrus Thomas, in "Science," page 564, says: "examining the excellent albertype of the limestone tablet given on Plate VII. Vol. II of the Proceedings, we are somewhat surprised to see the sun represented with a face."

Who *shall* decide when *doctors* disagree?

Here also we are brought face to face with the painful fact that certain lines look—to Dr. Peet—"as if they had been cut by a knife." (This is scientific and italicised, and of course important.)

Another serious charge, on page 53, must not be overlooked, viz: "In these lines and in the belts or arcs below them, the figures or characters are repeated." The scroll is repeated several times but in different arcs, and so of some of the other characters." "This would indicate that the party fabricating the inscriptions ran out of characters" (!) "and was obliged to repeat the same characters several times as he made the different lines."

This is bad, and unfortunately the same is true of the famed "Rosetta stone," and also—Alas! of the learned Dr's own article of ten and a half pages, indicating that "the party fabricating" each "ran out of characters" (*not character*) "and was obliged to repeat" several of the letters and even whole words! What would the author of that criticism have had to say if *no* character had been repeated? Would that, to his unbiased mind, have indicated a genuine written language?

Further, in following out this interesting line of argument against us, how chagrined must we and our friends be to find—as told on page 52—that the characters "present great variety of forms," and shocking to behold—that among them have actually been discovered "angles,"! "partial circles,"!! "scrolls,"!!! "squares,"!!!! In such a case we are naturally quite at a loss what to do about it. Of course they ought to have been all exactly alike, no "variety of forms," and not one to be "repeated;" however, it is too late now, we must even let it go so.

It evidently makes no sort of difference any way, what is or what is not on the tablets, all circumstances are alike suggestive of the one idea which possesses our critics; the wish is father to the thought. If they would lay aside their fraud-glasses and use their natural faculties while not too much impaired, might they not see less "darkly?"

In relation to the alleged discrepancy between the first description and illustration of Mound No. 3, and the later and more complete report, it would almost seem that persons seeking the

truth need not have been greatly perplexed, but perhaps an explanation may assist the duller sort to comprehend it.

Mr. Gass, not being very familiar with the English language, furnished notes of the circumstances of the discoveries and the structure of the mounds, and Dr. Farquharson prepared the report which was unfortunately published without being first submitted to Mr. Gass for careful examination, as it should have been. It is, however, obvious from the report itself as published, that Dr. Farquharson drew a wrong inference regarding the layers of stones and shells. Mr. Gass explicitly stated, as quoted, that in Mound No. 3, "the outer and inner arrangements were quite similar to the first" (Mound No. 1.) This statement of course *includes stone and shell layers*, and evidently he did not suppose it necessary to repeat the description of those layers. From this, Dr. Farquharson erroneously inferred that there were none, and the drawings having been made under his direction, these were omitted in the illustration of that mound. Of course neither of those gentlemen were aware or had the remotest thought of the jealousies which would be aroused, and the bitter and unscientific spirit which would prevail among the "authorities" a few years later.

The remark on page 55, where our assailant "would refer to one very singular circumstance," viz: "that the word TOWN is found in one of the belts or arcs" shows to what straits he is reduced when, being once embarked in the undertaking he *must* do something, however feeble.

His remark carries our memory back a few years, and we refer to the *ANTIQUARIAN*, Vol. 1, No. 2, page 107, and read: "The strangest thing about the tablet is that the word TOWN *stands out in bold lines* among the cabalistic letters."

(Like him we will italicize some significant expressions.)

Then we turn to his *letter* of October 20th, 1878, and read, "The albertype contains the same characters, though *none of us would have thought of it* except as your own report suggested it"! He then also says that he actually borrowed the allusion from Dr. Farquharson, and further says, "It comes back to you differently from what it went out," Dr. Farquharson alluded to it saying it "may be pure fancy," Dr. Peet said "stands out in bold lines." His own comment on that point is perhaps sufficient. The simple truth is so obvious it scarcely need be mentioned; every one who has ever examined the tablet or a fac simile, photograph or albertype, *knows* that the faint resemblance is nothing more than one of the merest coincidences; such a resemblance as, when once "suggested," may be traced by the exercise of the imagination, in the clouds or the coals burning in the grate. Would an imposter be *likely* to introduce English words? How consciously feeble must be the cause, which is sought to be sustained by such allusions.

We bear in mind the fact that one of the most prominent features of the whole case is the total absence of all conceivable motive for deception. Our uncomfortable and much alarmed friends have not even hinted at any such thing. In their anxiety to establish their favorite theory of a "plant," they have not the slightest idea *who* might have attempted it, or what object any one could possibly have had in doing so. We are repeatedly assured that it is not believed or suspected that our members themselves have attempted, or would do or countenance, any such act.

Upon the appearance of these aggressive, systematic and persistent attacks upon the Davenport discoveries, the thought which naturally arises in the minds of readers every where, is the very pertinent question—which must some day be answered—*Whence* this desperate and blind eagerness to impeach the genuineness of these particular specimens? What are the considerations which prompt such reckless and ill-considered efforts, upon the most frivolous pretexts, and by perversion of facts, feeble puerilities and obviously false inferences, to arouse suspicion and to manufacture public opinion?

Shall we, too, "read between the lines" to interpret the true significance of all this?

It is, indeed, comforting, gratifying in fact, not only to find that with all these gigantic and almost superhuman efforts put forth by the expounders of science and dictators of theory, the integrity of all the five relics attacked remains absolutely untouched, and not one vulnerable point has been found; but also to be kindly and patronizingly informed that this whole crusade "does not detract from the value of the other relics which are in the cabinet of the museum."

Rev. Mr. Gass must be happy to learn also that the author of the article, having been *the only person* who has ever published a charge of "fraud" against him (see ANTIQUARIAN, November, 1885,) "considers the members *all* to be honorable gentlemen, incapable of deception," and furthermore that he "has always been and is now ready to defend him from all aspersions as to character and reputation!"

W. H. PRATT.

Davenport, Feb. 4th, 1886.

Correspondence.

FRAUDULENT OBJECTS OF STONE.

Editor American Antiquarian:

When I wrote you that I had in my possession objects of stone obtained through exchange from the Rev. Mr. Gass which were fraudulent, I intended in the near future to prepare an article of greater length and with more definite explanations. This notice which you gave in the editorial [Vol.VII. No. 6,] compels me to forward to your address the facts at once as I presume many readers of the *ANTIQUARIAN* are awaiting their appearance.

All studious archæologists know the story of the finding of the "Elephant pipes," so-called, and of the stone tablets, and it is not necessary that it should be again repeated here. They are also aware of the charges brought against the Rev. Mr. Gass and the Davenport Academy of Natural Sciences, by Mr. H. W. Henshaw, of the Bureau of Ethnology, Washington, D. C., [see Annual report of the Bureau of Ethnology 1880-81 on pages 155 to 158,] and the immediate appearance of the interesting pamphlet entitled "Elephant Pipes," in the museum of the Davenport Academy of Natural Sciences, by its President, Charles E. Putnam, Esq., supposed to be a vindication of the reverend gentleman and the Academy. I have both the accusation and the defense before me.

The truth, which I wish to place before the public are not related to these charges but others which have arisen later. The facts are as follows: Last Summer I was visited by Mr. H. C. Stevens, of Oregon City, Oregon, a gentleman who takes much interest in relics of stone and who possesses a fine collection of prehistoric objects. At about the same time Mr. Putnam's paper came into my hands and I took occasion to show Mr. Stevens the article, mentioning some of the portions in which Mr. Gass was concerned. He replied at once in a positive manner in reference to the last named, and when called upon to explain returned, answer, saying that he had received from Mr. Gass, a number of stone articles which were certainly fraudulent. He promised to send the objects to me upon his return home, and did so, and they are now in my possession. With them came a letter from which I quote the following: "I sent you two pipes, two pieces called Indian money, one so-called 'sacrificial plate,' and one ornament. All have the original labels except the pipes and the 'money.' The pipes were

labeled 'Grey sandstone pipes from Missouri,' the 'money,' 'Indian money from Illinois.' The pipes were thrown out doors and lost their labels, and have taken on quite an ancient look from exposure to the weather. There was another piece I wanted to send but could not get it into the box, I mean the piece of *white marble painted to represent sandstone.*"

This I received later and added it to the other articles.

I have also in my possession two letters to Mr. Stevens from Mr. Gass bearing on this exchange, and I reproduce them here verbatim before describing the objects; having however, corrected the spelling but not changing the sentences.

OFFICE OF J. DUNCAN PUTNAM, }
CORRESPONDING SECRETARY, DAVENPORT }
ACADEMY OF NATURAL SCIENCES. }
DAVENPORT, IOWA, April 9, 1881.

H. C. STEVENS, *Dear Sir:*

We received your letter to J. D. Putnam, and your box of arrow heads also. We have a large collection of Indian stone and flint implements in our museum, obtained from most all the states along the Mississippi, and exchange them for others. We also have the best collection of mound relics in existence. Mr. Pratt, our curator, is willing to exchange with you a greater number of Indian implements, and he will send them all together as soon as you mention what you wish.

I do not collect Indian relics, but my specialty is exploring mounds and collecting mound relics. I had a good collection, but it is now in possession of our museum. I have in possession but a few at present, and send them for exchange; for I would like to have Oregon relics. I wish you would send me a number of the best small arrow-heads, perfect in shape and color. I want to use them for charms for my children, also some large spear-heads; and if possible an Indian pipe. The rest you may send what you think would suit me best. If you wish a greater collection of mound relics, I think I could furnish some for you this summer. I would be glad to have the things as soon as possible for I will leave Davenport as soon as the frost is out of the ground for the purpose of exploring mounds.

Yours truly,

J. GASS.

DAVENPORT, June 11, 1881.

H. C. STEVENS, *Dear Sir:*

I received your letter, and a box with a few arrow-heads. I sent you two boxes mound relics. One contained a celt, and thirty-seven flint knives and spear-heads. They were just as good as any found in mounds, and are valued more here than Indian relics; but I see in your letter they are not important to you; and under this circumstance I will be content if you exchange for just such as I sent you.

The other box contained very valuable selected relics. *The*

pipes are very rare, and only found in the Mississippi valley. I spent over fifty dollars this spring, exploring mounds, and only found one broken pipe.

Our Academy pays for such pipes from ten to fifteen dollars. I only sent you them because I would like very much to have some Oregon relics. If you do not value them, or care to exchange for them, please return by mail, and I will send you the cost of freight, and arrow-heads in return.

Respect.,

J. GASS.

It is curious that the envelope in my possession is addressed in quite different writing from that in which the letters were written. I infer from the style that Mr. Gass is a German, and not being posted in the English language had another person to write the letters for him, as he dictated them.

I take the liberty to describe the articles, though they need only to be seen to be known as fraudulent.

The first is a pipe-shaped object; perhaps made to represent an unfinished pipe, *and is made from white marble*, originally covered with lead-colored paint. This has worn off, and shows the nature of the stone. The fraud was exposed still more by the application of spirits of turpentine. The part intended for the bowl is two and one-half inches long, one and one-half inches wide at top and lessens gradually in width as it reaches the stem which is three quarters of an inch long, one inch broad at bowl, and three-quarters of an inch at end of stem. The top of the pipe is convex, edges rounded, and has on each of its sides and surrounding the partly worked out bowl a shallow, circular depression about one quarter of an inch in diameter. What is to be the bowl is of the same size, but a little deeper. On each side of its broadest sides and on a horizontal line with the stem can be seen a similar cavity of the same size. The stem also has an unfinished perforation much larger than the bowl, and is broken away to almost its full length on one side. I am not aware that pipes flattened in this manner were ever taken from mounds. Stone cutters saw their marble slabs one inch and one and one-quarter inches in thickness. This object measures just one inch, and was probably made of such slab.

The next pipe is of a close grained stone which completed is to represent the head and neck of a bird. The neck, which is rather long, has extending around it three shallow grooves. The hole for insertion of the stem is placed in the middle furrow which runs around the central part of the neck. On its lower sides is cut in the center a small circular depression which is crossed by two grooves at a right angle. The marks made by a file can be plainly seen on this object.

The third pipe, also of a fine grained stone, is to represent a primitive form of mound pipe, in that the stem is also the mouth-piece which is flattened and curved. The bowl is round, expands at its top and rises at one end of the stem. In true mound pipes the bowl is found to rise from the center. File marks are also

perceptible here. These objects were originally labeled as being found in Missouri.

In the lot are two flat, oblong pieces of red shale, each about one inch long, three-quarters of an inch in breadth, and one-quarter of an inch thick, marked as "aboriginal money from Illinois." On the side of one, near its center is a circular cavity one-fourth of an inch in diameter. Its partner has two of these hollows somewhat larger. On the sides opposite are a number of deeply incised lines crossing each other.

Another flat, broken specimen of shale has an irregular, rounded top, sides notched, and a projecting base about half an inch high. The stone appears to have been exposed to great heat, which has caused the other side of the base to melt away. Near the center is placed also a circular cavity. The manufacturer of these objects seems to have been partial to cup depressions. Had Dr. Rau's "Observations on Cup-shaped and other Lapidarian Sculpture in the Old World and in America" incorporated in "Contributions to North American Ethnology, Vol. V, pages 1 to 112 inclusive, Washington, 1882," appeared earlier, one would be inclined to think that the maker had taken his cue from that interesting work. The last in this collection is a flat, oblong object called a "Sacrificial Plate," having a spoon-shaped groove almost covering one side. There is along one end on the other side a well defined, curved projection forming at an angle with the depression which I suppose was meant for a handle. This may be a true relic; but why it should be called a "sacrificial plate" is to me a mystery. It is labeled as coming from Missouri. The "ornament" and "sacrificial plate" still have on them the original paper pasters, one written by the person who wrote the letters sent by Mr. Gass, the other the German style of penmanship which is to be seen on the envelope.

But few, if any, comments have been made by the writer. The examination may hereafter be made by able archæologists, and by them reported upon the objects which are claimed to be frauds. The facts have been given because there should be no concealment in scientific research. If Mr. Gass has been imposed upon why does he not come forward and acknowledge it? It would look better for him to do this than to remain so silent. The letters show that deception has been practiced. If so in this case why not, also, in others now in dispute.

A. F. BERLIN.

Allentown, Pa., Jan. 15, 1886.

LETTERS ON THE SAME FROM MR. GASS AND
MR. STEVENS.

Editor American Antiquarian:

As the latest phase in the transaction of the fraudulent relics from Oregon, I enclose the following letters.

Yours truly,
A. F. BERLIN.

Allentown, Pa., Feb. 22, 1886.

“ POSTVILLE, IA., Jan. 30, 1886.

MR. STEVENS, OREGON CITY. *Dear Sir:*

I learned by letters of Mr. Berlin, at Allentown, Pa., sent to the Academy of Natural Science at Davenport that the Indian pipe I exchanged with you some years ago is not authentic and very doubtful just as you wrote to me when you received it. I am very sorry I did not believe you and that I was so badly mistaken. I got the whole lot sent to you from the same party and now I am afraid there could be some more doubtful articles among them and of course I never would give to any body a doubtful relic by my will and knowledge. In this case I think it would be my honor and duty to correct my mistake and send you your specimens back again by mail to day and you also will be so kindly and send mine back to me. Enclosed I send you hereby postal note 50 cents, by postage, to send my lot back by mail. Should the postage be higher I will send you the balance.

Resp. Yours,
J. GASS.”

“ OREGON CITY, OREGON, Feby. 9, '86.

REV. J. Gass. *Dear Sir:*

Your letter dated Jan'y 30th, and enclosing postal note for 50 cents to hand. The box you mention as having shipped is not yet to hand. When it does come both it and the order shall be held subject to your instructions, as the articles I received from you are not now in my possession. They now belong to Mr. Berlin of Allentown, Pa. I am sorry to say that not only the pipe, but the pipes, and each and every other article received from you, were the basest kind of frauds. Now, it seems to me that a man of your reputation would hardly be so easily imposed upon by such worthless trash. If you have really been imposed upon, I am sorry, but it is now, I think, too late for me to do anything.

Yours truly,
H. C. STEVENS.”

ANIMAL CARVINGS.

To the Editor American Antiquarian:

In a recent article of the January ANTIQUARIAN, entitled "Animal Figures in American Art," you take occasion to freely criticise opinions advanced by me in a paper entitled "Animal Carvings from Mounds of the Mississippi Valley," in the Second annual Report of the Bureau of Ethnology. Far from deprecating the kind of criticism contained in your article, which aims to discuss mooted scientific points and refrains from personal abuse, I am extremely glad that the article in question has called forth comment, as only by the free interchange of opinions can the points raised by it be settled. In view of the fact, however, that I find myself compelled to differ essentially from certain opinions advanced by you, and as I consider that in some cases, you have not presented my views and statements as clearly as I deem desirable, I beg leave to review the subject briefly in your magazine.

I cannot better preface my remarks than by a few words on the character of the work done by Squier and Davis, more particularly as my article, devoted as it necessarily was, in large part to a criticism of the views advanced by these authors, seems to have been misconstrued into an expression of peculiar animosity to them. That such misinterpretation is entirely unnecessary will appear from a quotation taken from the beginning of my paper, which states my real opinion of the work of these authors in no ambiguous terms.

"In 1848 Squier and Davis published their great work on the Mounds of the Mississippi Valley. The skill and zeal with which these gentlemen prosecuted their researches in the field, and the ability and fidelity which mark the presentation of their results to the public, are sufficiently attested by the fact that this volume has proved alike the mine from which subsequent writers have drawn their most important facts, and the chief inspiration for the vast amount of work in the same direction since undertaken."

The more carefully the work of these gentlemen is scrutinized in the fuller light of the present day, the greater will be the admiration for their attainments and especially for the scrupulous exactness with which they endeavored to present their results. Having had occasion to examine their publications with some care, the writer is prepared to yield to no one in his admiration of their skill as explorers, and their ability in handling the facts when gathered. Pioneers as they were in their chosen field, it is too much to expect that the full and final bearing of all the data their industry garnered, should appear in their conclusions. Mistakes, more or less important, they could not well escape, and the high character of their work as a whole only renders it more important that these errors should be discovered and set forth. When all the errors they made are corrected, enough of good, honest, thoroughly done scientific work will be left to serve as a monument of

their fame, sufficiently enduring and imposing to satisfy their most ardent admirers.

Three erroneous conclusions were put forth by Squier and Davis, the adoption of which seems fraught with important consequences. First: The statement clearly made in more than one place, that the carvings and other works of art left by the Mound-Builders evinced a high state of art, and that as works of art the carvings are "immeasurably beyond anything which the North American Indians are known to produce." Second: That the fidelity to nature in many of these carvings is so remarkable as to make them "rank beside the best efforts of the artist naturalists of our own day." Third: That as a consequence of the great imitative ability of the mound sculptors, the extraordinary likeness of some of the carvings enables them to be identified as the delineations of birds and animals from remote southern districts, thus justifying the statement that the Mound-Builders either had intercourse with foreign parts, or else originally migrated thence, or, that the same race existed contemporaneously over a vast extent of country.

A careful examination of the figures in the carvings in question, published by them and others, as well as of casts of many of them, —most of the originals being, as is well known, in a foreign museum, and not accessible, — led me to opinions almost diametrically opposed to those cited, and, I may add, that after careful consideration of your recent article I fail to see reason to abandon the position taken.

With reference to the proper relative positions of the naturalist and archæologist in the study of animal carvings, I believe that archæologists generally will agree with the position taken in my previous paper, and in part, at least, subscribed to by yourself, viz: that it is for the naturalist rather than the archæologist to determine the degree of actual likeness borne by the carvings to the birds and animals of the present day. When discrepancies are noted by the naturalist or actual resemblances denied, it is for the archæologist, familiar with aboriginal art methods, to account for the discrepancies, and to show the extent and manner in which natural features have been exaggerated, toned down or totally left out at the bidding of mythologic fancy or conventionalism. Perhaps the ideal student of such objects would be the archæologist endowed, in addition to a knowledge of his own specialty, with a naturalist's familiarity with animals; but in the lack of such a student, archæologists should perhaps be willing as you intimate, to accept the assistance of naturalists who, as you say, have the advantage of acquaintance with animal life. If the above assumption be correct, it would seem to be the natural order of procedure, that the opinion of the naturalist as to the exact likeness of a given carving should precede the final statement of the archæologist; in other words, facts precede theories. Had such a course been adopted in regard to the animal carvings in question, there is a fair

degree of probability that certain current theories would never have been promulgated.

Believing then, that the work of the naturalist might be of use to the archæologist, even at this late day, and admitting frankly, as I did, that the naturalist's conclusions were to be reviewed by the archæologist, and modified when inconsistent with well grounded archæological facts, it was the main purpose of my paper to prove, from the standpoint of the naturalist, that the position originally taken by Squier and Davis in reference to the carvings, was in the main incorrect. In order that the exact ideas of these authors may be clearly understood, a few paragraphs may be quoted. Among other things they claim that the carvings "faithfully represent animals and birds peculiar to other latitudes," * * * "As works of art they are immeasurably beyond anything which the North American Indians are known to produce." * * * "So far as fidelity is concerned, many of them deserved a rank beside the best efforts of the artist-naturalists of our own day." * * * The acceptance of these views by many archæologists might easily be shown by citations, but it will suffice to quote the views of the latest, and certainly not the least experienced, of archæological writers, viz: your own. The above statements among others, you quote approvingly and add, "we consider them judicious, well-guarded, and discriminating, and doubt whether any archæologist of the present day would make them any more so."

Here then would seem to be the main point at issue between the naturalist and the archæologist. The naturalist denies that the carvings are exact imitations of nature in the ordinary, or in the true sense of the word, and affirms that they are imitations only in a way so general that a very large percentage are not recognizable at all, except as animals and birds, while a great majority of those which are recognizable in a general way, are so from the presence of salient features, the portrayal of which does not require, and is therefore not evidence of, high artistic ability. The following illustration is to the point. However imperfect a carving of a snake may be, if only the rattle be rudely represented, it is permissible to identify it as a rattlesnake. But the successful identification of a rude carving from the presence of a salient feature like this would by no means justify a glowing eulogy as to the wonderful imitative ability and high artistic skill of the sculptor. Artistic ability of a high order should be equal to the task of representing a rattlesnake so unmistakably, that even with the rattle broken off, the carving would be identifiable.

Referring to the respective positions of the archæologist and naturalist in studies like the present, attention may be called to the fact that in attempting to refute the position taken in my paper, you do not in a single instance adduce what may be called archæological evidence, but, on the contrary, treat the matter purely from the naturalistic side. In no case do you explain the results reached by the mound artists, be they good or bad, by an exposition of their art methods, nor do you even furnish us with the "standard

or criterion " accepted by archæologists as their guide in the study of such objects. Having denied the validity of the conclusions reached by the naturalist, it would seem to be incumbent on you as an archæologist in refuting them, to cite evidence from the archæologic aspect of the case. Is your failure to do so to be interpreted as a confession that archæology has no criteria of its own by which to judge these particular carvings?

To conclude, as you do, that "it may be true, as Mr. Henshaw says, that the particular species or variety of animal is not always recognizable, but we think that the generic class is generally pretty well represented," is in startling contrast to the conclusions as to close resemblances reached by other archæologists. Imitative ability of the general character you here claim will be at once conceded by all, and in case of an animal like the bear, otter, beaver, and some others of which but one species inhabited the Mound-Builder's region, identification becomes easy enough, less, however, from the skill of the artist than the simplicity of the case. Vastly more skill and imitative ability than is implied in your statement must be conceded to the mound artist if, on the strength of the resemblance of a certain carving, a knowledge is claimed on the part of the Mound-Builders, of animals and birds inhabiting far distant regions. The *a priori* improbability that the Mound-Builders were acquainted with these animals is great, and cunning indeed must be the skill of the sculptor, and admirable the carved likeness upon the strength of which such important conclusions are drawn.

Having warned the naturalist not to expect the native artist "to exhibit the accuracy of nature in the representations of animal life," and having gone so far as to affirm that such expectations will not be realized even in modern art, the question you subsequently put would seem to be an idle one. You ask, "will the naturalist who undertakes to criticise the specimens which have come down to us from the native artists, give us some criterion by which we can judge them (i. e., the animal carvings,) as imitations?" On the assumption that such criteria mentioned by you as, "measurements of parts, proportions of wings, limbs, and other parts of the body," would be of service in such comparisons, we must suppose that the mound artist brought to his work, not only very high ideas of the requirements of art, but that he had recourse to the dividers, or to the tape and measure,—an idea you will probably agree, it is not permissable to entertain. The only criteria possessed by naturalists, which are of use in such comparisons, are derived from a study of nature, and consist in a thorough knowledge of the animal life with which the Mound-Builders probably were, or might possibly have been, acquainted. Such data as you allude to as, "measurements of parts," etc., are to be found, when wanted, in many standard works of natural history. They cannot be laid down in a series of formulæ, and applied like mathematical rules.

Referring to your remarks on the individual sculptures, let us turn to the Manatee.

MANATEE.—In considering the carvings which have been pronounced so confidently to be manatees, but which I consider otters, you fail to give the necessary prominence to the most important part of my argument, viz: the presence in the sculptures of both ears and feet. Aside from the fact that those sculptures least like the otter, are not like the manatee, I contend that the possession of ears and feet, the former being wholly concealed in the manatee, the latter being mere paddle-like flippers, is sufficient proof that the sculptures can not have been intended to represent the manatee.

To assume the Mound sculptors capable of such egregious blunders of omission—seven times repeated—in the representations of animals they were really acquainted with, would be to practically disbar their handiwork from comparisons like the present, on the score of extraordinary ignorance or a very low order of imitative ability—an extreme position which I, at least, do not care to assume. Two of the sculptures have fishes in the mouth; sufficient proof that the carvings were intended to represent carnivorous animals. It should be carefully noted, however, that only one of the two carvings which you are willing to concede are otters, is a good representation of that animal. The other much more nearly resembles the supposed manatees than it does the otter, and it can not be doubted that it would have been classed with the other manatees on the strength of its resemblance to them had it not been for the fish in its mouth. This secured its interpretation as an otter. Why then not class the others as otters, assuming, as is reasonable enough, that the sculptor, as in so many other cases, had not the time, or skill, or the desire, to portray its food. I fail to understand the force of your confident assertion that the “Mound-Builders evidently drew the distinction between the two, (i. e., otter and manatee,) *universally representing the one as herbivorous and the other as carnivorous.*” (Italics my own.) Rarely, indeed, are the habits of the sculptured animals indicated by the portrayal of their prey. In the large majority of birds and animals, even of such predaceous species as the wild cats and hawks, such indications are wholly wanting. So that while in the case of the animals portrayed with their food, positive deductions as to habits are permissible, its absence proves nothing. The cud of “sea grass or marine herbage” which would be proof of the herbivorous habits of the supposed manatee, is looked for in vain. Your line of reasoning appears to be that, because the animals are not represented as carnivorous, therefore they must be herbivorous, and their herbivorous habits proved in this extraordinary manner are cited to strengthen the assumption that they are manatees!! Nor can I accord greater weight to your argument based on the feet. You say, “They represented the manatee as having only two feet, and the otter, either as having two feet, or else figured the animal with two feet visible, and the other invisible.” The following seems to be a much more natural explanation.

As the pipes must have convenient handles, the body of the

sculptured animal was either sloped off to fit the hand, or the handle made by cutting the body squarely off, leaving a flat surface for the hand to grasp—hence the bodies of the supposed manatees cannot be supposed to be finished, and the absence of feet need occasion no surprise, and calls for no remark.

TOUCAN.—As you frankly admit archæologists have been mistaken in the identification of two out of the three carvings of the supposed toucan, a little caution would seem to be permissible as to the third specimen. With reference to it I can only restate my former opinion. The toucan is a bird the Mound-Builders were most unlikely to know anything about, owing to its remote habitat. The evidence that they did, ought, therefore, to be beyond dispute, the likeness should be unmistakable. It is far from it. The bill, legs, neck, and feet of this carving are all so far removed from likeness to the toucan as to absolutely prohibit the naturalist from accepting its identification as such. The carving is not executed with the detail necessary for its perfect recognition, but the general make up of the bird renders it fairly safe to pronounce it a heron or ibis. Its disproportionately thick neck and massive bill may be accounted for, perhaps, on the theory that had these parts been more delicately shaped the carving would have been too frail to serve its purpose as a pipe. The neck seems designed to serve as a handle, and hence strength was an essential. As stated in my previous article, however, its identification as a Toucan was doubtless due less to a resemblance to that bird than to the fanciful idea that it is supposed to be represented as feeding from a human hand.

HAWK.—In respect to this carving you state, "it will be noticed that it has a head wholly unlike that of the hawk; the bill also is much shorter." Both of these statements I am compelled to deny explicitly. The raptorial features of the birds of prey are too marked to be overlooked, and too easy of portrayal to be neglected by the mound sculptor. The "notched bill," the "cere," and, I may add, the general appearance of this particular head prove it to be a hawk beyond all question, while the same characters are equally conclusive proof that it is not a grouse. In deference to your positive statements above quoted, I have shown the head to a number of prominent ornithologists who all agree as to its likeness to a hawk. Its resemblances are too general to enable the species to be safely pronounced upon. Here, at least, you should be willing to accept the conclusion of ornithologists since all your statements are based on ornithological grounds.

BAT.—Of this you remark, "the carved figure concerning which the naturalist has made the greatest mistake is one which Squier and Davis call the owl, but which he calls the bat." Unintentionally, doubtless, you have misrepresented me. I did not state this to be a carving of a bat; on the contrary, believing this sculpture to resemble neither owl nor bat with sufficient closeness to justify a positive identification, I was careful not to make one. I state, as you subsequently correctly quote me, "this carving differs markedly from any of the avian sculptures, and probably was not in-

tended to represent a bird at all; it more nearly resembles, if it can be said to resemble anything, a bat, with the features very much distorted." The chief reason for doubting the avian character of this carving, is the peculiar way in which the wings are represented, in relief and not by means of lines, and feather etchings which appear on almost the full length avian sculptures. It seemed to me also, though the cut does not suffice for a positive determination, that the legs are represented as being attached to the wing, and that in this particular the carving was rudely suggestive of a bat. The eyes, however, are much too large for a bat, and in short, the carving seemed, and still seems to me, to be a nondescript.

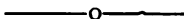
Much more might be written upon the many carvings which fail to reproduce animal characteristics with sufficient accuracy to permit their identification. Enough, however, has been said, to disprove the Mound-Builders vaunted "fidelity to nature," and I will conclude with a quotation from my previous article.

"Of forty-five of the animal carvings, including a few of clay, which are figured in Squier and Davis' work, eleven are left unnamed by the authors as not being recognizable; nineteen are identified correctly, in a general way, as of a wolf, bear, heron, toad, etc.; sixteen are demonstrably wrongly identified, leaving but five of which the species is correctly given."

As the above statement has not been disproved, it must be admitted to amply justify the claim of numerous errors made in the identification of the carvings.

Respectfully Yours,
W. H. HENSHAW.

Washington, D. C., Feb. 5, 1886.



MOUNDS IN MANITOBA.

Editor Am. Antiquarian.

SIR:—It may not be known to most of your readers that the mound system of the Upper Mississippi River merges into another that may be denominated for convenience the Manitoba system.

A connected line of mounds extends down the Red River of the North to Lake Winnipeg, and the western feeders of the river run through a fertile country in which many groups of mounds are found. Little field exploration has yet been done, but the result of the search so far made is most gratifying.

In character the mounds closely resemble the burial and hearth mounds of the Ohio. I have opened several and secured sea shell gorgets, stone tubes, shell beads, pottery, etc.

In the immediate vicinity of a group of mounds on the Red River, 18 miles north of the city of Winnipeg, I discovered an old camp site, with quantities of "kitchen midden" containing fragments of pottery, shell and stone beads, partially worked and fin-

ished flint arrow heads, scrapers, etc., hammering stones, rough stone axes, etc.

Living at Lake Winnipeg, the builders of the mounds, whether they were the ancestors of our Indians or a distinct race of people, were within easy reach of tide-water in Hudson Bay, the Nelson River affording easy access to it. They must also have known of the existence of the Saskatchewan river, the feeders of which interlock with those of the great Mackenzie.

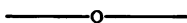
Though it is the favorite theory of many that the mound builders came from the North-west, no systematic attempt has been made to follow up the theoretical migratory path by exploration for the remains, in the form of mounds and embankments, left by this much discussed people.

The discovery of shells of *Busycon perversum*, *Natica* and *Marginella* in these mounds fully 1500 miles from their native waters, shows the great range of trade.

I will gladly furnish details of the discoveries made, in a second communication.

CHAS. N. BELL.

Winnipeg.



THE DI CESNOLA ANTIQUITIES.

Editor American Antiquarian:

On page 67 of your last number I observe the following note:

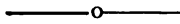
"The Di Cesnola antiquities are the subject of another attack. This time it comes from Colonel Warren, R. A., and Dr. Ferdinand Duemler. This time doubt is thrown upon the accuracy of General Di Cesnola as to where he found some of his treasures."

This, no doubt, refers to the fact that Herr Richter, a German who has had something to do with excavations in Cyprus for some time, has been asserting that the four chambers of the crypt at Curium (Episcopi), in which the famous "Curium Treasure" was discovered, had no existence in fact. Richter based his assertion mainly upon some excavations on the site of Curium, during which he did not find any such crypt, and was therefore rash enough to assume that it had never existed. Last fall he took Dr. Duemler there and their combined efforts failed to discover anything but their own bugbear. Cesnola's old digger, Theochares, who was with him at the time of the original discovery, has been more successful. In the *Phone* of Limassol, the neighboring town, he publishes a letter which has been largely copied by Cypriote papers and is found also in substance in the Athenian dailies, to the following effect: Receiving directions from Gen. Cesnola to dig some 500 or 600 yards from the spot where Richter had been at work, he began in October last and after 25 days' work lighted upon the four chambers, which he says were then visited and measured by Charles Christian, Director of the Imperial Ottoman Bank of Limassol, Major Chard, J. W. Williamson, Saul Galep, of the

private bank, and I. Penzike the interpreter. Theochaes was there shown the pictures of objects in Cesnola's "Cyprus" that were taken from these chambers, and recognized them as the objects found in the crypt originally, and closes with the following remark: "Any one can see the crypt now open, situated in the field of the Turk Mechmet Effendi, son of Champas Aga, just about 500 to 600 yards from where Herr Richter recently played his comedy to show that these chambers did not exist. I have bound the owner of the field not to fill up the excavation for some time."

This seems a good and sufficient answer to Herr Richter, and the moral is one which may be worth pondering.

A. C. MERRIAM.



THE BOW AND ARROW USED IN FISHING.

To the Editor American Antiquarian:

The bow and arrow was extensively used in fishing by all Indians, who developed much skill in overcoming the difficulty of shooting through the water. Comparison with arrows intended for hunting or war, will show the peculiarities belonging to those ruder ones designed for piercing fish. The greatest number of specimens of this kind in the National Museum come from Alaska, and have ivory points with cedar shafts. Many have ivory heads upon which the barbed tips are made adjustable in diverse ways. It was intended that these should be recovered after use. The Caribs of the Antilles had arrows which were used for killing fishes in rivers, or along the shore of the salt water, where it was not more than three or four feet in depth. These were long and made of one piece of wood with a long barb. They had a rope of considerable length attached to them, with a buoy of light wood at the end, which was dragged by the wounded fish until the Carib could catch it by swimming. The use of these arrows required great expertness. Turtles are procured on the sandbars of the Amazon by shooting arrows into the air from a long distance, but with judgment so accurate that they fall vertically upon the turtle's back and pierce his armor. The native Californians were expert at shooting fish in the mountain rivers and lakes of their favored land; but the eastern Indians seem to have made comparatively little use of this method of fishing.

ERNEST INGERSOLL.

The Museum.

DEVOTED TO THE INTERESTS OF COLLECTORS.

EDITED BY EDWIN A. BARBER.

GORGETS AND PENDANTS.

Inscribed tablets of small size are rare. In the collection of Philip and Alfred Sharples, of West Chester, Pa., are two which partake of the nature of pendants. Fig. 1 represents a specimen of sagittal form with a hole in the top for suspension. The etching, which occurs on both sides, is probably ornamental. It is of black slate. Fig. 2 is an engraving of a larger specimen made of steatite, from the same collection. It is perfectly smooth on the back; but the front contains a conventional figure of some animal, probably a turtle, in low relief.



Fig. 1.

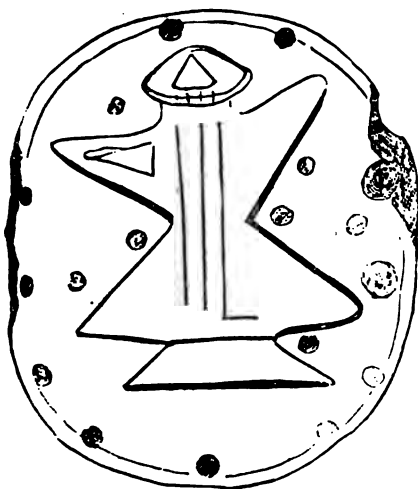


Fig. 2.

At the upper edge are two perforations for suspension. This interesting example was found on the Brandywine near West Chester.



Fig. 3.

The most curious specimen which has been recently discovered, however, is the one represented in Fig. 3. On each side is distinctly engraved what appears to be a gown or dress. Instead of holes for suspension, there are indentions on the sides, which were probably intended for the same purpose. This specimen was found

by Mr. Wm. Wallace Tooker, on May 5th, 1885, at Sabonac Bluffs, Long Island. The three engravings are of the natural size of the original specimens. E. A. B.

COLLECTORS AND COLLECTIONS.

The Rev. M. Eells, of Skokomish, Wash. Ter., has a representative collection of antiquities and modern objects of ethnological value of the Indians of the Northwest coast.

Mr. Norman Spang, of Etna, is the owner of one of the largest collections of antiquities in Pennsylvania, consisting of about 11,000 specimens. Amongst many rare things it includes 90 tobacco pipes, 15 stone tubes; 12 "saddle-birds," 20 ceremonial axes, 60 hematites and a number of copper implements.

The extensive archæological collection of John and Joseph Collett, of Indianapolis, Ind., comprises some 40,000 specimens, including typical examples of every known form, and a number absolutely unique.

Samuel W. Pennypacker, Esq., of Philadelphia, Pa., has an interesting collection of stone relics, the majority of which were found in the vicinity of Phoenixville, Pa.








The largest collection of aboriginal relics in Chester Co., Pa., is that of Philip and Alfred Sharples of West Chester. It embraces many thousands, representing every form of implement made by the Lenni Lenapes or Delawares.

Dr. S. E. Babcock, of Chester, S. C., has a collection of antiquities from that state, numbering 30,000 specimens.

TYPICAL PIPES IN VARIOUS COLLECTIONS.

Ancient Indian tobacco pipes were made in such a countless variety of designs that it is difficult to classify them, but among them we find certain characteristic forms, which indicate their approximate age or the localities where they originated. The most marked of these are the true mound or platform pipe, with curved base, the sculptured stone idol or human head bowl, the trumpet form with curved stem (usually of clay), the disc or shield type, the inverted bottle-stopper, the straight tubular form, such as is found in ancient graves in California, and the broad, flat platform type, somewhat similar to the first mentioned variety, but differing in the location of the bowl, which is always placed nearer the end; this is a much more recent form. In the table below we give a partial list of archæological collectors who own such specimens, and the number of each. At the heads of the columns are small engravings of typical specimens. The examples enumerated are, in most instances, of almost the exact form of the cuts; in others they are modifications, possessing the same general characteristics.

NAMES OF COLLECTORS.

							
Mr. A. E. Douglass, New York, N. Y.	3	2	9	6	3	11	3
Dr. C. S. Arthur, Portland, Ind.	3	1		2		4	
Mr. A. F. Berlin, Allenown, Pa.	1			1			
Dr. G. W. Galloway, Findlay, Ohio.			1				
Mr. J. M. M. Gernert, Muncy, Pa.			2				
Rev. W. M. Beauchamp, Baldwinsville, N. Y.				1			
Mr. Geo. S. Mephram, St. Louis, Mo.				1		1	
R. S. Robertson, Esq., Ft. Wayne, Ind.	3						
Mr. N. V. Johnson, Brookville, Ind.	1						
Mr. M. A. Gavitt, Madison, Ind.		1					
Mr. A. W. Palmer, Crockville, N. Y.			6				
Dr. Gabriel Messer, Greenville, O.		1					
Dr. J. C. Neal, Archer, Fla.					1		
Dr. Geo. J. Engelmann, St. Louis, Mo.	1					6	
Mr. J. W. Calkins, Santa Barbara, Cal.						6	
Mr. H. C. Ford,			1 ^a				
Mr. W. S. Beebe, Woodstock, Ct.						1	3
Mr. W. W. Tooker, Sag Harbor, N. Y.							
Dr. Daniel G. Britton, Media, Pa.							1
Mr. Otis M. Bigelow, Baldwinsville, N. Y.			15		1		1
Mr. G. W. Holstein, Belvidere, N. J.							2
Mr. B. Cowan, Baldwinsville, N. Y.							1
Mr. E. R. Smith, Skaneateles, N. Y.			1				
Mr. S. L. Frey, Palatine Bridge, N. Y.			2				
Mr. W. C. Hayes, Delphi, N. Y.			1				
Mr. B. B. Burr, Oswego, N. Y.			1				
Mr. B. E. Hulbert, South Onondaga, N. Y.			1				
Mr. Meredith, Schoenepel, N. Y.			1				
Mr. C. Grogg, Baldwinsville, N. Y.			1				
Mr. Alexander Hamill,							
Mr. D. S. Kellogg, Plattsburgh, N. Y.							
Mr. T. W. Keddy, Carey, N. Y.			1				
Mr. T. Linnelsten, " " "			3				
Mr. N. " " "			4				
Mr. Geo. A. Bates, South Bend, Ind.	2						
Mr. Wm. W. Adams, Maspeteron, N. Y.				2	1		1

^aA remarkable stone pipe, found near Santa Fe.

NOTES.

"A Handbook to the National Museum at the Smithsonian Institution, Washington," has just appeared, from the pen of the well-known writer, Mr. Ernest Ingersoll. This little volume, which will be placed on sale (at the low price of 25 cents) in the rotunda of the Museum, contains a large amount of valuable information and will supply a want which has long been felt. It contains over one hundred pages of instructive, descriptive and entertaining matter, profusely illustrated, and will not only be thoroughly appreciated by the thousands who visit the National Museum every year but will prove a valuable acquisition to the libraries of collectors and others, as a book of reference. It may be procured by addressing the author at 107 Liberty St., New York.

A valuable collection of antiquities from C^osta Rica, Central America, containing about 650 objects, has been placed in the hands of Messrs. Frederick Stearns & Co., of Detroit, Mich., for sale. It includes many characteristic tripod vessels and dishes, a stone "macana" or club-head with points (such as is found in Peru), about 300 terra-cotta jars and vases of various sizes, colors and forms, pottery whistles in form of birds and animals, three human heads or idols, about five inches high, with curious head-dresses, two large stone stools with three feet and carved decoration, three flat dishes of volcanic tufa in form of reptiles on four feet, the heads and tails forming the handles, ladles, pestles, stone beads, celts, terra-cotta rings or supports for pointed vessels, grotesque stone sculptures, handles of vases moulded in the shape of animals' heads, some hollow and containing loose balls, besides a large number of other interesting things.

The price fixed by the owner for the entire collection is only \$900, an average of less than \$1.50 per specimen. The lot will be held until May 1st next and will then be transferred to the highest bidder. This is a rare opportunity for a public institution to procure, at a nominal price, a most valuable collection. Should it not be sold entire, it will be divided into groups. Collectors desiring small series would do well to enter into correspondence with the firm having the sale in charge.

The Numismatic and Antiquarian Society of Philadelphia, will publish, at an early day, an archaeological map of the Delaware and Susquehanna river valleys, which will cover contiguous portions of the States of Pennsylvania, New Jersey, Delaware and Maryland. This will show the location of the various classes of aboriginal remains such as burial grounds, sites of old encampments, shell-heaps, rock inscriptions *in situ*, work-shops, tumuli, cave retreats; native quarries, deposits of implements and the location of old Indian trails. Archaeologists are requested to send any information they may have bearing on the subject to the editor of this department (The Museum), or to the corresponding secretary of the Society, Mr. Henry Phillips, Jr., No. 320 S. Eleventh St., Philadelphia, Pa.

THE MUSEUM EXCHANGE.

[Offers of Exchange from subscribers and contributors will be printed in this department without charge.]

Arrow-heads from Connecticut in exchange for the same from other localities, particularly Arkansas, California, New Mexico and Oregon; fine points of jasper, obsidian and rare materials preferred.—*Granville T. Pierce, South Britain, Conn.*

WANTED,—Indian Pipes or casts of same, for purposes of study and comparison, in exchange for casts of ancient Mexican and Central American inscribed tablets, etc. Address *Dr. Antonio Peñafiel, No. 15 Calle de San Andres, City of Mexico, Mexico.*

Early British coins and tokens desired in exchange for other ancient coins.—*C. E. Fewster, Hornsea, Hull, England.*

Mr. Forrer, Jr., publisher of "*Antiqua*," Zeltweg, 55, I. Hottingen, Zürich, Switzerland, desires to dispose of a large collection of coins, prehistoric Greek and Roman antiquities, objects from the Swiss lakes and antiquities from the middle ages.

WANTED.—To exchange stone relics of the Catawba Indians for objects of use or beauty.—*S. E. Babcock, M. D., Chester, S. C.*

Indian relics for Colonial and Continental notes or antique, foreign paper money. Address *Lock Box 22, Philadelphia, Pa.*

HOW THE MOUNTAIN SHEEP ORIGINATED.

AN HISTORICAL LEGEND OF THE COWICHANS,

This remarkable legend I found in the winter of 1881 while conversing with a few of these Indians. The Cowichans are a part of a large nation inhabiting Southeastern Vancouver Island, and in the lower part of Puget Sound W. T. and Frazer river, B. C. As a nation they call themselves Whull-e-mooch (dwellers on Whull, Puget Sound), where, tradition says, they lived before crossing over to Vancouver Island. This remarkable legend has been preserved from unknown times. With our natives, as with every race of mankind who do not possess a written language, these tales were told by the old folks to while away the hours when seated around the village evening fires. Thus, through succeeding generations, they pass from sire to son. We, as a people whose intellect has a wider development, may consider them as foolish, yet nevertheless they, no doubt, had their origin in fact, and as facts they were preserved and handed down by the people, or nation, amongst whom they have been preserved.

"There was a time very long ago, our fathers tell us, when the Whull-e-mooch lived a long way further south than we, their children do now. Northward the whole country, from the sea to the farthest mountains, was covered with snow and ice, so deep.

that the heat of summer failed to melt it. The old folks tell us that their fathers did not like the land they lived in, and wished to move, but were at a loss where to go. Southward lived a people they feared because they were stronger than they, our fathers, were; northward the snow and ice prevented their moving. While they were discussing what to do, the spaul (raven) came suddenly amongst them. After listening to their grievances, he said: 'I shall soon settle that difficulty;' so saying he turned all the snow and ice into Pe kullkun, or mountain sheep, and sent them to make their home in the fastnesses of the highest mountains, where there would be food for them, while their wool would make clothing for the Whull-e-mooch forever. After the snow had all gone, the climate became warmer, and the country dryer, which enabled the Whull-e-mooch to move northward to where we, their children, now live, and have lived ever since."

This legend is the more remarkable as the migrations spoken of seem to have taken place in or about the ice or glacial period. Whether these migrations actually took place as above mentioned, or whether the numerous ice grooves and scratches which every where abound on this portion of Vancouver's Island have given the natives the idea that at a very remote period, the whole land was full of snow and ice, is not apparent. It cannot, however, very well be seen how a race of ignorant savages could connect them when the land, or rather rocks and hills were covered with glaciers, whose effects are still visible in these grooves, etc. Besides I have never yet found any Indian tradition in the least degree connecting these appearances with the action of ice. Taking the legend in its simplicity, the inference is that this part of the continent was inhabited at a time when an arctic climate prevailed farther south than at present, and that the change was brought about by the spaul, in order to benefit the people. These people don't understand the transformation to have taken place instantaneously; rather they seem to understand that the change became apparent during the lifetime of numbers who lived before it took place. Altogether the legend is a very remarkable one, and well worth preserving. While rendering it into English I have retained the simplicity of the original as much as I could. The big-horn is abundant on the mountains forming the coast range of this province. Sailing along the beautiful inland waters along our coast I have seen herds of them grazing hundreds of feet above us, on the mountain slopes.

It has long been, and is still, to a certain extent, the common belief of all the various tribes of aborigines on the coast that the Divine Being in all his actions assumes the shape of a raven. He of all creation had no beginning. From Him every thing sprung. By Him, in the form of a raven, is every thing controlled. Many a curious legend I have heard from the tribes of British Columbia and Alaska, with regard to his works of creation and preservation.

JAMES DEANS.

Editorial.

THE POINTS INVOLVED.

We have given considerable space in this and the preceding number of the *ANTIQUARIAN* to the Davenport Relics. The reasons for this are obvious.

1. The very fact that they have been suspected from the outset has rendered it necessary that the investigation should be thorough. The subject of frauds has become one of the most important and at the same time, most difficult questions which Archæologists in this country have to deal with. It is difficult when only individuals are concerned; the subject, however, in the present case, is more complicated from the fact that the relics are in the cabinet of a society, and are regarded by the members as genuine. If the relics are fraudulent, the case becomes embarrassing to the society, and for this reason requires both candor and caution. We have endeavored to exercise these; have suggested that archæologists should discriminate between the relics, about which there is no dispute, and those concerning which suspicions have been raised; have also avoided reflecting upon the individual members in any way, and have been careful about fastening suspicion upon any known individual, but have been inclined to think that the party discovering the relics has been imposed upon by some unknown person. If the quotations from the Reports of the Society have taken ten and a half pages in this journal, the matter published by the Society amounts to over seventy pages.

2. Another reason for giving prominence to the Davenport finds, is the fact that many important points have been made to hinge on them. These points are as follows:

(1st,) The existence of two distinct races, one called Mound Builders, the other Indians.

(2nd.) The existence of a phonetic alphabet among the Mound Builders.

(3rd.) The extreme antiquity of the Mound Builders.

(4th.) The migration of the Mound Builders from a region where a phonetic alphabet existed and where the mastodon abounded.

(5th.) The preservation of the traditions of the flood is a point made by a contributor, Prof. Seyffarth, and is published by the Society in one of its reports. Mr. W. H. Pratt, in his article, speaks of the tablets, and says, or intimates, that there has been no prominence given to them. The fact is, however, that the reports

abound with descriptions and discussions, and all of these points are made to hinge upon the genuineness of the relics. Dr. Farquharson says, in his paper read March 19, 1877: "Ladies and gentlemen, the last link in the chain of evidence of the the co-evil life of man and the mastodon on this continent, bears the date of 1877, and is to be found on the face of the hunting scene tablet now before you." Again, in his address Jan. 1, 1879, "in the elephant pipe we have the keystone in the arch of evidence which has been building for so many years." Mr. W. H. Pratt, in his annual address given Jan. 5, 1881, says, "these plainly and unmistakably show that the sculptors were acquainted with the elephants, (the mammoth or mastodon) of which, though long extinct, numerous remains are found throughout this country. Strangest of all, and most contrary to the opinion of archæologists hitherto, it now appears that *the mound builders had a written language*. Whence derived, or what its origin, is matter of the merest conjecture. What were its affinities, or whether it had any connection with other written languages, ancient or modern, no one has as yet been able to determine." Prof. Seyffarth says "in contemplating our Davenport slab what do we notice? First, we distinguished thirty or more animals well known in the present world, of which the most interesting is the elephant, not at all domestic in America. A number of these animals appear included in two large cases intersected with lattice work. In the midst of these animals we see a patriarch with the scepter in his hand and behind him a sitting woman. Apart from these we notice three other men and three other likewise sitting women, but scattered among the animals. Query; Who are these eight persons—these four men and four women? Why are they connected with thirty different animals, of which several are encaged, and hence preserved for a future time? What has the elephant to do with North America? I should think these particulars give abundant evidence that our tablet is a memorial of the Noachian deluge, and a commentary to all other American traditions confirming the latter. It makes no difference whether this slab was engraved in America or in that country from which the Indians first emigrated; whether it was the work of the man in whose grave it was discovered, or was a sacred relic preserved from generation to generation."

3. In reference to the article by Mr. W. H. Pratt, we have this to say, that the method of argument which the writer uses, is not the one which we admire. We shall not undertake to answer the personal accusation contained in the last sentence, except to say that it is not true. We do not indorse the positions, nor do we quite approve of the language, but we leave it for our readers to make up their own minds in reference to the facts. We only repeat what we have said before:

(1). That the grave in which the tablets were discovered, according to the description given by the person who excavated it, had been disturbed; the arch was broken down and the fragment

of coal slate, heaps of stones, and loose dirt, were indiscriminately mingled in it.

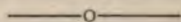
(2.) The tablets themselves, from the characters upon them, the manner in which the different parts of the picture were portrayed, and the appearance of the lines upon them, give evidence enough that they are fraudulent; the word *town* is plainly seen upon one of the tablets; the lines upon this tablet look as if they were cut with a knife; what is more, the circles upon the calendar stone look as if they had been made with a compass.

(3.) The number of tablets which have been discovered by the same individual are too numerous. There were first discovered two tablets; next, one tablet with an inscription, making three from mounds. Subsequently five tablets were found in the bed of a creek; still later a tablet was found in Sterling, Ill., making in all nine tablets, all but one of them found by the same person. The number of all the inscribed tablets which have hitherto been discovered, does not exceed this. They are as follows: The Grave Creek tablet, the Cincinnati stone, the Newark Holy stone, the Pemberton ax from New Jersey, the Rockford tablet, the Berlin tablet, the Welsh tablets, the tablet from Grand Traverse Bay; but of these only four contain any inscriptions which could be considered hieroglyphic or phonetic in character, and not one of these has been accepted as genuine. The two elephant pipes secured by Mr. Gass have not had a tendency to confirm the genuineness of the other relics. We now furnish additional information on the subject, and publish the letters from Mr. A. F. Berlin and from Mr. Gass as conclusive. We believe that they confirm the position which we have taken, that the last named gentleman has been imposed upon.

A COMPLIMENT TO ARCHÆOLOGISTS.

The editor of this Journal has been invited by the Victoria Institute of Great Britain to prepare a paper on the topics which have been discussed by Hon. Wm. Gladstone, Max Müller and Dr. Huxley, to go in as a part of the discussion, and the paper to be made a special pamphlet for distribution. The editor, of course, appreciates the compliment and considers it an honor to have received such an invitation, especially as the Secretary says, "the council feel that in your hands it would be safely left, your grasp of the subject being necessarily a more perfect one than most people's." There is added to this invitation this compliment, "the quiet, hard study and thought which Archæologist always does." It is this last point that we want to speak of. The Archæologists of this country, as those of Europe have, it appears, established a reputation for habits of quiet, hard study, and they are coming to be recognized as men whose investigations are going to prove of great value to the world.

We take it, then, as a compliment, not so much to ourselves individually as to the class which we represent; and we congratulate the Archæologists and especially those who have become identified with this journal on the fact that their labors are so fully appreciated. We believe that this is owing very much to the breadth and depth of their studies and to the ability to grasp subjects in their large and extensive bearings which many have exhibited, and would say that these are commanding qualities and are always to be commended. They are the qualities which we have sought to encourage. We have not, by any means, ignored the efforts which have been made to bring Archæology into the position of an exact science; nor have we despised those who were confined to the little technicalities of the science. We have found all labor to be useful.



NOTES ON EUROPEAN ARCHÆOLOGY.

BY HENRY PHILLIPS, JR.

THE address of the President of the Anthropological Institute of Great Britain on the classification of the varieties of the human species is published in *Nature* (xli. 799 p 364.)

THE Sixth Congress of Russian Archæologists was held at Odessa on September 12, 1884, and was very successful. It was divided into eight sections; 1st, Pre-historic Remains; 2d, Heathenish; 3d, Classical; 4th, Social and Domestic Art; 5th, Judicial; 6th, Philological; 7th, Historical-Geographical; 8th, Ethnographical. The reports of explorations for classical remains along the shores of the Black Sea were received with great interest, as bearing directly upon Russian culture and its connection with classical civilization. The Megalithic Remains in Cherson were described with exactitude for the first time, but M. Felnik was still in doubt if they were of natural or artificial origin.

A STONE on which was engraved the constellation of the Great Bear was exhibited by the finder, M. Puitatyn.

PROF. ANTONOWICZ gave the results of his explorations in fourteen caves hitherto undisturbed, the dwellings of pre-historic man and in which he found a large number of objects of flint and other stones.

PROF. SAMOKWASOW described his latest Pre-Scythian discoveries on the shores of the Dnieper, being various implements, tumuli, skeletons, bones burned and unburned, &c.

PROF. ANUCZIN exhibited a remarkable stone found in Siberia in the form of a fish.

M. HEJDUK called attention to the late discoveries at Noworossyok in the Caucasus, of houses built of two perpendicular stones covered by a third. Of these he found many rows which in one valley alone, "Cemska," amounted to several hundred.

THE Congress wound up with an Archæological expedition to the Crimea.

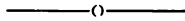
THE late explorations by Mr. Wedel in the island of Bornholm have resulted in the discovery of remains of the greatest interest, that exhibit human development from its earliest eras to the Age of Stone, through those of Bronze and Iron, down to historic times.

DR. KULISCHER read before the general assembly of the German Anthropological Association held at Karlsruhe in August, 1885, a paper on Russian Superstitions, in which he handled the subject of Primitive Materialism, which he considers to be as old "as Philosophy itself but not older." He adverts to many of the customs prevalent among the lower orders, such as refraining from giving a child under a year old fish to eat lest it should become dumb; women have a habit of giving their husbands some grave-earth in their drink to keep them from loose habits; tooth-ache can be cured by biting into a stone or oak, with the aching tooth, etc. The whole article is too long for abstract, but will well repay a careful perusal and comparison with Mr. Wm. George Black's late work on Folk Medicine issued by the Folk Lore Society.—*Korrespondenz Blatt. der Deutsch Anthro. Gesellschaft* XVI. 15., October, 1885. Seite 150.

MR. TISCHLER read a paper on the Decorative Art exhibited on the Iron Weapons of La-Tène Period.—*Ev. Lib.* p. 157.

MR. VAN COHAUSEN read a paper on Bronze Neck Ornaments.—*Ev. Lib.* p. 161.

DR. A. B. MEYER read before the Vienna Anthropological Society on April 15, 1884, a paper (just published) in which he discusses the question as to whether or not the axes of Jade and Nephrite in Europe were of Asiatic origin and gives it as his opinion that these finds were domestic and not foreign.—*Mittheilungen*, XV. 1. Seite.



NOTES ON AMERICAN ETHNOLOGY.

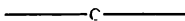
BY D. G. BRINTON, M. D.

THE TRIBES ON THE UPPER PARAGUAY RIVER.—In one of the recent publications of the Royal Museum of Berlin is an account of a journey by Richard Rohde in 1884 to the head waters of the River Paraguay in the Province of Mato Grosso, Brazil. He found the natives in the most primitive condition. Both sexes go entirely naked except a piece of bark imperfectly covering the sexual parts. Their weapons are bows and arrows, the latter tipped with bone points or with sharp fragments of hard cane. They also have spears eight to ten feet long. With these they do not hesitate to attack the most dangerous felines of the tropical woods. The Bororos are described as a tall, strong, well-built folk, dark brown in color, and bold hunters. But their country is unhealthy and the children are largely clay eaters. What is curious among them is that their women are the rulers in domestic life, and a Bororo wife will trounce her husband soundly without the slightest resistance on his part. These dames seem equally independent in another respect, for they were liberal in tendering their highest favors to the traveller and his companions. Evidently they had reduced their spouses to the most successful state of subjection. Other tribes which he met, the Guatos and Terenos, were in about the same stage of culture.

THE ESKIMO DIALECT.—Two brief but important studies touching the dialect spoken by the Eskimos have appeared during the last year. One of these is by Dr. A. Pfizmaier, of Vienna. It is an exposition of the complete paradigm of the verb in the Greenlandic dialect. Although there are some excellent grammars of that dialect, they were written for practical and not scientific purposes, and their authors did not set forth the full theory of the verbal inflection. This Dr. Pfizmaier has attempted in a paper of 82 pages in the Proceedings of the Imperial Academy of Sciences of Vienna. If he has not completed his task in every respect, he has certainly made the fullest display of

appointed Don Leopoldo Batres as Inspector and Conservator of the National Antiquities. The selection is a judicious one, as Señor Batres has devoted serious study to this subject, and it is to be hoped that the carelessness and indifference with which many of these objects have heretofore been treated will measurably cease. Up to the present time the Mexican government has acted the part of the dog in the manger,—it took no care itself of its antiquities, and prevented foreigners from taking charge of them and sending them to museums where they would be preserved and studied.

Mr. George Schwartz, whose address is "Care of the banker, M. Schwartz, Preuss. Stargardt, West Preussen, Germany," would like to exchange specimens of the stone and bronze age of Europe for specimens of the stone age in America.



ANTIQUITIES ON THE ISLAND OF MINORCA.

IN spite of the destroying hand of time, there are still to be found in Minorca (Balearic Isles), several megalithic monuments of past ages scattered all over the eastern part of the island, which by the rudeness of their construction show themselves to be the work of the early inhabitants. Even to-day the enormous heaps of stone called *talayots* cause great astonishment; the great stone tables, the artificial caves or cellars, rows of pillars and circles of menhirs, and those strange constructions in the form of a ship, the only ones in the world. It would be a most difficult task to suggest a creditable account of their origin wrapped as is the problem in the obscurity of history, difficult, if not impossible to solve. We will content ourselves with a description of them as they are found to-day when the lapse of ages and lack of care in their preservation cause a sigh of regret for their state of decay.

1. TALAYOT WITH HIGH DOORWAY AT TORRELLO.—Talayots are megalithic monuments in form of a truncated cone whose base is circular, elliptic or oval, and a few like a quadrangular truncated pyramid, formed by greater or lesser number of rows of great stones mostly unhewn and with no union whatever. From observation of the 130 or more which are to be found to-day on the island, all do not seem to be of the same epoch, since in some of them a certain grade of perfection in the cut of the stones is seen which in others is lacking. As perfect types we may cite those in the village of St. Augustine and Torrello which we will hereinafter describe. The state of decay in which many of these monuments are to day will not allow us to decide whether in their primitive state they were all hollow or not, although we are inclined to believe that some were solid on account of being sloping on the outside and having no trace of an outer door. They are commonly divided into two classes of talayots, those with high and low doorways, according as their entrance is situated in the upper or lower part of the monument. As a perfect model of the former we give that of Torrello (near Mahon) which exists in a pretty good state of preservation. Its height is approximately 10 meters, it being impossible to ascertain its exact measurement on account of the dense fields of brambles which surround it, and the modern buildings in its neighborhood. Its high or superior door which is reached by some projecting stepping-stones on the outside of the talayot, is 1.40 meters high by 1.00 meter wide; the upper stone or lintel very well cut, measures 1.50 meters in length. Besides this are remains of two other talayots completely in ruins, but which must have been much smaller and some other monuments of the same epoch.

2. MEGALITHIC HABITATION AT TELATY DE DALT, THE BEST IN PRESERVATION.—At a distance of 1.90 meters from the entrance of the habitation, toward the north, in the interior, stands a cylindrical column (1.14 m. high) upholding quadrangular stone (1.65 m. long, 1.30 m. wide, 0.50 m. thick) upon which rests the anterior extremity of another central piece (1.60 m. long, 1.00 m. wide, 0.30 thick) placed horizontally, the other end of which rests upon an-

other quadrangular pillar (1.15 m. high) partially imbedded in the wall. The two pieces horizontally placed form a beam upon which rest the pieces springing from the side walls form the roof. The lateral walls, the thickness of which cannot be ascertained being so confounded with other structures and composed of innumerable unequal sized stones,—are horse-shoe shaped, the widest interior extent being 3.40 meters.

3. DOLMEN AND TALAYOT OF TELATY DE DALT.—By the name of *dolmens*, *sacificial altars or tables* in Minorca are known certain cyclopean monuments almost always composed of two great broad stones, situated, one vertically or on end, and the other, called the shelf, horizontally and in perfect equilibrium upon the former, forming a sort of table as the people have appropriately named it. Aside from these and departing from the general rule some few there are with two feet or supports, the second of which some archaeologists believe to be an extra prop to the shelf. If it be true that the *altar of Torretrencada* has a second foot which acts as a prop merely, the same cannot be said of that at Telaty de Dalt in spite of what has been said, since only an edge of the end which has the foot beams against the side of the shelf. Was this put there to form a second table? Some say this, but others say that doubtless they were thrown down in time and remained in the position in which they are now found, which is not very probable because the lower edge of the right foot is cut to a basil or bevel and rests upon a smooth stone, rather wide, showing that it could never have been placed in equilibrium. Of the sixteen altars still existing on the island, one of the best preserved is that of Telaty de Dalt. Its dimensions are as follows: Large altar (?). Right foot, height 2.89 m., width 2.50 m., thickness 0.37 m. Shelf, length 4.00 m., width 1.50 m., thickness 0.50 m. Small altar or prop (?). Foot, height, 2.83 m., width 0.35, thickness 0.20 m. Upper edge or shelf (?), length 0.75 m., width 0.59 m., thickness 0.30 m. These monuments are encircled by thirteen menhines, some standing, some fallen, united or connected by large blocks forming an irregular circle open toward the north. The general height of the menhirs is 2 meters approximately, with the exception of one, which is 2.70 m.

4. LOW PORTAL OF THE TALAYOT OF CORNIA.—One of the most perfect and most characteristic types of talayots with the low entrance is situated in the estate of Cornia, (Mahon), the diameter of which is approximately 15 meters and not less than 11 meters in height. The low entrance or inferior door measures 0.89 m. in height and 0.60 m. in width. Within them are 10 or 12 steps, a stairway which once undoubtedly led to the upper part of the talayot, but the roof has fallen in and filled up the space entirely. Near this, which is the principal one of the group, are several remains of artificial caves or cellars, some menhirs and large monoliths.

5. NANETA DELS TUDONS.—Other megalithic monuments which merit attention and scrupulous study are the *nanetas*, or for want of other name, the *sheepcotes*. They are in shape of an inverted boat, with prow to the north, built in the same manner as the talayots. Did the builders take for models the inverted boats of the Medes and Persians used by them as huts, spoken of by ancient historians? Six of these precious relics are found almost totally ruined, that which is least so being called *dels Tudons* a short distance from the citadel. The facade or poop which looks toward the south is trapezoidal in form, made of great rectangular stones measuring at the base about 5.50 m. by 4.55 m. in height. The very small entrance is situated in the lower part and is about 0.75 m. in height by 0.57 in width. The lateral walls, nearly one meter in height, of great stones which rest in rows upon enormous rough pieces of marble, diminish in thickness as they ascend, measuring in length about 14 meters. The prow or point is in ruins and no exact measurement can be given. The interior of the edifice, much narrower by reason of the thickness of the walls measures in the poop 1.75 m. diminishing toward the prow end or point. The roof, to-day destroyed, was formed by great flags which rested upon the lateral walls. It is almost impossible to get inside nowadays on account of the debris. A few years since it was believed that the Narenta or sheepcote of *dels Tudons* was the only one in Minorca; but thanks to the continued efforts of that indefatigable investigator of Minorcan Archaeology, D.

Juan Pons y Soler, we know of six more now, situated as follows. One, almost complete at Son Mercar de Baix; two in Calafí vell y Barranco, two in ruins in Na Beltrana; one on the tongue of land which separates the harbor bay of Sa Nitja.

6. REMAINS OF A DOLMEN AND CIRCLE AT BINIMAYMUT.—Among the most perfect and best preserved of the menhir circles is one in the village of Binimaymut (Mahon). It is horse shoe shaped, and consists of fourteen large pillars or Menhirs. The entrance, somewhat more than a meter is marked by two large monoliths of more than 2 m. wide by 1.50m. high. Within at the center stands the foot of an altar, the height of which cannot be ascertained exactly on account of the great number of stones lying about so that only about 2 m. of it is seen. Not far away is the talayot hidden by dense brambles and sharp, thorns but formed of great rough stones and mostly ruined. At some distance from the talayot there are great monoliths which shows that there have been a great many large and bold constructions there.

7. ALTARS AT S. AUGUSTIN.—In the village of S. Augustin there are two small altars, not very high, within a circle of large stones, as in other villages. Were these altars, perchance, the hearths on which the fires were lighted at night, and from which the Phœnecians named the island of Minorca, *Miza*, (the ?) In the same village is a large altar and a talayot of the better sort and pretty well preserved.—*Translated from the Spanish of Fran. Hernandez Sanz by Wm. F. H. Gardiner.*

LITERARY NOTES.

BY THE EDITOR IN CHIEF.

CROOKED LANDS.—At the meeting of the Cambridge Antiquarian Society, Nov. 1885, Mr. C. P. Tebbutt read a communication on the Crooked Lands; these are lands raised by plowing carved in the form of the letter S. The gentleman assumed that they were produced in the tribal period before ownership in strips of land existed. Mr. F. Seebohm stated that these high-backed lands had been noticed in Germany as well as in England, and said that they belonged to the ancient open field system.

A ROMAN VILLAGE.—At the same meeting of the Cambridge Society, Mr. F. M. Hughes spoke of the traces of three houses at Shepreth, which he supposed belonged to an ancient Roman village. Painted plaster and pottery had been discovered and a tile passage.

DOUBLE BLADED AXES.—Some remarkable relics are found all over this continent from the Atlantic to the Pacific, which may be call double bladed axes. They are generally made from ribbon slate but are found in a variety of material. They have a perforation through the center and are on this account remarkable specimens. The Stone Age in Europe is generally characterized by chipped and ground stone implements, and only in the Bronze Age do we find axes perforated. In America there is a transition from the stone to the bronze which may be called the copper age, and these perforated relics are the tokens of this transition. It is remarkable that double bladed axes should be so common in this country. In Greece they were regarded as signs of a religious cult which became quite advanced. Some of them were connected to the worship of Jupiter, and certain temples were built which were called temples of the Double Bladed Ax. This may have come from a primitive sun worship and the specimens may be regarded as symbols which have survived from early times. The question arises whether these so-called axes are in this country to be connected with the sun-worship.

LINEAR MEASURE.—Mr. R. P. Greg has a series of articles in the London Academy of July 4th and 25th, and Sept. 12th, on "Ancient Units of Linear

Measure, in the New World as well as the Old, with some criticisms on Mr. Petrie's determinations. In the September article he says: "I have collected about 25 of the best ancient Trojan measures I can obtain from Dr. Schliemann's works on Troy, and, having reduced them to English feet and inches, I have obtained a remarkably well-marked cubit of 19.85 inches; intermediate as between Dorpfeld's (the old Assyrian cubit of 19.7 inches) and Petrie's (one belonging to the Eastern Mediterranean, of 19.96 inches, equivalent to an archaic Phœnician of 20.0). It is interesting, however, that from thirteen measures of archaic tombs at Sparta in Attica, as given by Dr. Schliemann in his *Troja*, p. 111., I also get, very satisfactorily, a cubit of precisely the same length as this old Trojan one; and from eight measures from Tiryns (see Mycenæ Tiryns chap. i.) also an exactly similar cubit! These buildings must date back from 800 to 1200 B. C., and are all more or less Cyclopean in their character, and may all be included in the term Pelasgic. Still more interesting would appear to be the fact that from an examination of nearly seventy of the best measures given by Dr. Schliemann, taken during his excavations at the ancient Acropolis of Mycenæ, the precise same cubit of 19.85 again is clearly obtainable." He gets the same cubit also for the Phrygian and Etruscan unit, but he believes that the Hittite was one of 21 inches, derived from a Babylonian measure.

MR. J. THEODORE BRINT has found some interesting remains of ancient speech in a village on the north of Carpathos in the Ægean, among them the use of a hard gamma, recalling the digamma in certain words, although the dialect in general drops the ordinary gamma on every possible occasion.

EXCAVATIONS on the site of the ancient Agora at Athens are progressing, and have yielded numerous fragments. As the accumulation of ages has raised the level some 25 feet here great expectations may be realised.

BIBLICAL ARCHÆOLOGY.—At the June (1885) Society of Biblical Archaeology, Rev. H. G. Tomkins read a paper identifying local geographical names in Northern Syria with the names contained in the Karnack list of Thothmes III; Mr. P. le page Renouf one on the eclipse in the Egyptian texts, e. g. "The sun whose vision is diminished," "the black boar attacks the eye of Ra," "the tortoise is the deadly enemy of the sun-god," "life to Ra, death to the tortoise." "The sting of the serpent is inflicted upon the sun-god, his place in the solar bark was vacant."

THE COURT IN EGYPT.—The same Journal has an article by Howard Osgood, D. D., descriptive of the dress and manners of the royal family in Egypt.

SUN IMAGES.—The Old Testament Student has an article on the above subject by Talbot W. Chambers, D. D., in which the extent of sun-worship is dwelt upon. It prevailed among the Syrians, Egyptians, Babylonians, Greeks, Romans, Germans, and Canaanites. The contrast between this and the true worship is shown.

THE SAVIOUR IN LITERATURE.—The same Journal has some remarks on the idea of redemption by Justin A. Smith, D. D. It appears in all religious, Pagan as well as Christian.

ALPHABET OF THE SAVAGES.—Mr. Henry W. Haynes in the Proceedings of the American Antiquarian Society, 1885, refers to the article in this Journal by Dr. Brinton on the "Taensa Grammar," and then describes the pictographic American manuscript which was published in 1860, but which brought down ridicule without stint and which was called the Book of the Savages in the light of French civilization, as it is full of the figures with which boys and vulgar men disfigure walls; and proves to be a grand mistake, though the Abby Domenech undertook to defend it and to construct an alphabet out of it. The edition was finally suppressed by the Emperor and the Abby himself. Possibly some of the over-wise scholars of this century are undertaking to construct alphabets out of fraudulent relics will take warning.

SEMI-LUNAR AND CRESCENT-SHAPED TOOLS.—The same report has an interesting article on the above title by J. J. Valentini.

A STATE ACADEMY OF SCIENCE was organized Dec. 29, 1885, in Indianapolis, D. S. Jordan, President, Prof. A. W. Butler, Sec'y, J. N. Hartley, Librarian. An article on the life of Rafinesque was read by Dr. D. S. Jordan.

THE LLAMA TEMPLE.—The *Overland Monthly* for October ('85) contains an article on the great Llama Temple at Peking by C. F. G. Cumming. The Temple contains stone carving of animals and thousands of fantastic figures of birds and beasts carved in wood; these are supposed to be very old. Stone drums, said to be 4,000 years old are in the temple area.

ANCIENT LINEAR MEASURES.—The *Canadian Record of Science*, Vol I, No. 4, has an article on some pre-historic and linear measures by R. P. Greg. The following countries are mentioned; Peru, Mexico, Mound Builders, China, Japan, Mongol, Hittite, Buddhist, Bronze and Stone Period, Oceanica, &c. No uniform measure has been fixed upon. The question is still unsettled.

TRADITIONS OF THE AINOS.—The same journal has an article on the above subject by D. P. Penhallow.

THE ATHABASCANS.—The same journal has an article on the Athabaskan district by E. Petitot, in which the tribes are located.

PRE-HISTORIC RELICS AND MOUNDS.—The *Canadian Antiquarian*, Vol. XII, No. 8, contains a description of a hook-shaped implement of native beaten copper, seven inches long, found under drift clay and sand, 25 feet, on the north shore of Lake Superior. The hook was found amid a number of fragments of charred wood. The same journal reports a discovery by Mr. C. N. Bell, of an arrow-head work-shop at St. Andrews in Winnipeg; 183 flint arrows and 87 fragments of pottery were taken out. A mound was excavated by a special committee of the Hist. Soc'y of Winnipeg. Stone tubes, sea shell ornaments, a tiny red earthenware cup, fragments of bones, buffalo horn, were discovered.

STONE TUBES.—An explanation is given in the same journal that the stone tubes are used by medicine men for the purpose of sucking evil spirits out of the sick. The above is said to be the largest find of stone implements in this country, that is, Canada. The custom of burning bodies and covering them with earth-heaps seems to have been observed there as well as elsewhere among the Mound Builders.

BOULDER MOSAICS IN DAKOTA.—The above is the title of an interesting article by Prof. J. E. Todd in the *American Naturalist* for January, 1886. The figure of a turtle and of a serpent, also of a cross, was found at Turtle Point in Jerauld County. Other sketches of animals are found near Pipestone, chipped or pecked on the surface of the rock.

THE Quarter-Centennial Celebration of the settlement of Kansas has been recently observed at Topeka. The *Daily Commonwealth* of Jan. 30 has a full account of the proceedings. Speeches by Gov. Martin, Ex-Gov. Robinson, Dr. McCabe, Rev. Richard Cordley, and others. Gov. Reeder's Diary is also given in full, and has thrilling interest as it shows what was endured to make Kansas a free state.

GALVESTON Historical Society desires letters and journals relative to the early history and settlement of Texas, and facts illustrative of Indian Tribes, their history, chiefs, warriors, etc.

ARCHAEOLOGICAL MAP.—The Numismatic and Antiquarian Society of Philadelphia has undertaken a map of the valleys of the Delaware and Susquehanna rivers which shall embrace the following items: gravel deposits, shell heaps, cave retreats, village sites, earth works, old fields, quarries, work-shops, caches, mortars in rocks, rock-inscriptions, burial places, tumuli, Indian trails. E. A. Barber, J. R. Baker, Henry Phillips, Jr., F. Jordan, S. Culin, D. G. Brinton, committee.

ONE of the most appreciated organs of French Anthropology, the *Revue d'Anthropologie*, of Paris, founded in 1872 by Paul Broca and continued by Paul Topinard, inaugurates a third series with the co-operation of the most distinguished representatives of the various branches of Anthropological Science. Among those we notice the following names: Dr. Gavarsot, director of the "Ecol d' Anthropologie de Paris;" Dr. Matthias Duval, director of the Sabotage d' Anthropologie de l'Ecole des Hautes Etudes; Marquis de Nadaillac whose principal work on pre-historic Archaeology, one particularly on "L'Américan Pre-historique," has been translated into English; General Faidherbe, Great Chancellor of the Legion d'Honneur, well known for his philological works; De Quatrefages, Professor of Anthropology at the Museum; Dr. Hamy and Louis Ronsseld, who highly represent Ethnology; Jules Bochart, General Inspector of the Medical Service in the French Navy; Baron Larrey and d'Arbois de Jubainville of the Institut. The director of the *Revue*, Dr. Paul Topinard, is General Secretary of the Anthropological Society and the author of the *Elements d'Anthropologie General*, to which the Academie de Sciences has last month awarded one of its annual prizes. P.

THE LANGUAGES OF THE CAUCASUS.—Mr. R. N. Cust, whose browsings in so many linguistic fields are so widely known, and who merits the thanks of students of linguistic science for the pioneer work he is doing, by which the labors of more profound investigators are lightened, has, as his latest contribution, published a paper with the above title in the Jour. Roy. Asiat. Soc., Vol. XVII, Part II. In this he has brought together with great industry all available information concerning the ethnical and linguistic divisions of the singularly mixed population of this large region. Not only has he consulted all authorities to be found in the libraries of Europe, a list of which is the not least valuable part of his paper; but in 1883 he made a journey to the Caucasus and pursued his inquiries on the spot. The classification of tongues which he adopts is briefly as follows: 1. Persian, spoken in the southern districts which once belonged to Persia; 2. Kurd, represented by forty-four thousand immigrants, settled a little north of the Persians; 3. Armenian, spoken by about three-quarters of a million of souls, mostly in the large towns; 4. Ossete, the language of a tribe situated in the center of the range and numbering one hundred and eleven thousand; 5. Turki, found mostly on the Caspian side and embracing nine dialects, spoken by nearly a million and a quarter of people; 6. Georgian, found nearer the Black Sea, and representing a group of five not very closely related dialects, spoken by nearly a million of souls; 7. Abkhas or Abas, living on the Black Sea and numbering twenty-two thousand; 8. Tsherkes or better known as Circassians, living in the north-western part of the range and representing the fragment remaining behind after 400,000 of their people had migrated to Turkey in Europe in 1864; 9. Awar, mountaineers who live, to the number of one hundred and fifty-five thousand, on the Caspian end of the range; 10. Hurkan, a population of eighty-eight thousand east of the Awar; 11. Kasikumunk, numbering thirty-five thousand and living between the Awar and the Hurkan; 12. Tabasseran, a tribe of sixteen thousand in the same region; 13. Kurin, a large tribe of one hundred and thirty-one thousand souls a little south of those just named; 14. Artshi, name of a single village speaking a strange tongue; 15. Ude, spoken in two villages south of the Kurin; 16 and 17. Tshetshen and Tush, who occupy the northern slopes of eastern Caucasus. Most of the above languages are spoken with considerable dialect variation; but precise information on this point is not yet forthcoming. The first four languages belong to the Aryan family, the fifth to the Turanian, and the remainder are placed in a Caucasian group, whose affinities are yet doubtful. A colored language-map adds much to the value of the paper. J. A.

MR. CECIL TOTT has in hand a monograph on the ancient history of Rhodes, which will shortly be issued by the Cambridge University press. There is no work at present on the subject in English, and the numerous inscriptions and other material discovered in the island within the past fifty years offer a field for an extremely interesting subject. M.

C. T. NEWTON.—It is reported that Mr. C. T. Newton has signified his intention of resigning at the end of this year the keepership of Greek and Roman

Antiquities at the British Museum. He has been in the public service for forty-five years, and asks the repose he has so well earned. He will retain, however, his professorship of archaeology at University College, London, and will still be a potent factor in the archaeological world. M.

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BOOK REVIEWS.

Documents Relating to the Colonial History of the State of New Jersey. Edited by FREDRICK W. RICORD and WM. NELSON, Vol. IX. Newark, N. J., Daily Advertiser Printing House, 1885.

The Historical Society of New Jersey continues to publish the archives, the first series having reached the Ninth Volume. Besides these the Society has published annually the proceedings in four parts, Vol. VIII of the second series having been just finished. Mr. Wm. A. Whitehead, was the corresponding secretary for many years, but his most important work was that of editing and publishing the seven volumes of the Documents. He died in August; his memoir and likeness have appeared in the New England Genealogical Register. The legislature of New Jersey has been very liberal, having made "an appropriation which should enable the Historical Society to arrange, collate and publish any papers relating to New Jersey History."

Transactions of the New York Academy of Sciences. Vol. III, 1883-84. Editor, ALEXIS A. JULIEN, School of Mines, Columbia College, N. Y. Also Vol. V, No. 1. Oct. 1885, Edited by HERMAN LE ROY FAIRCHILD, Recording Secretary. Published for the Society in eight monthly numbers.

The American Antiquarian is noticed in the first named volume, in connection with the subject of paleolithics, a discussion having arisen in one of the meetings of the Society over the article written by Prof. H. W. Haynes. Prof. Newberry, at this time, also took occasion to commend the article by Mr. Boscawen on Assyrian discoveries, for all of which we are very grateful.

Heroes of Ancient Greece. A story of the days of Socrates the Athenian. By ELLEN PALMER. New York: Thomas Whittaker.

This is a love story abounding with Greek names and modern Christian ideas. A discussion between Greeks and Jews in Athens, is listened to by lovers in Greek costumes. The whole thing is purely imaginative and very little realistic description in it. The book abounds with engravings, some of which are quite good, especially that of the Parthenon, and the mechanical execution is excellent.

St. George and the Dragon. A world-wide legend localized. By GRANON. London: Wyman & Sons, 1885.

The idea of this book is that the legend of St. George and the Dragon had its origin in England. The author says that "the most southern point in England is called the lizard. Why so named? Perhaps from the dragon of Geology which is to be sought in the saurians, signifying a lizard." The imaginary contest between the dragon and his conqueror is based upon an actual contest which occurred off the coast of England, between one of these monsters of the deep and an "unknown youth." This is the latest version of the legend. The resemblance between a rocky point of land over which the white surf rides and a dragon over which a horse and rider stands as conqueror, seems to have impressed the mind of the writer. The question now is whether the legend is historic or pre-historic, natural or imaginary. The mists of antiquity envelop it, while the literature concerning it increases. Perhaps the old explanation that it signified the contest between the night and day, light and darkness, will give way to this pre-historic view.

The Lznapc Stone or the Indian and the Mammoth. By H. C. MERCER. New York: G. P. Putnam's Sons, 1885.

The subject of Elephants and Elephant-pipes is at present attracting a good deal of attention in this country. The argument in this book is in favor of

the opinion that elephants were known to the aborigines, and various facts are brought out to prove the point. The especial occasion of the book is the discovery of a stone in Pennsylvania which has an elephant inscribed upon it. Letters are published in the latter part of the book from Mr. Carvill Lewis, Dr. D. G. Brinton, F. W. Putnam, and Mr. Joseph P. Iddings, the most of whom take a position against the genuineness of the stone, especially the carvings upon it. The book will be sought by archaeologists who want to know the arguments on both sides of this interesting question.

The Celt, The Roman, and The Saxon. By THOMAS WRIGHT. London: Trubner & Co., 1885.

The author of this book takes the position at the outset that there are no monuments in England of any importance preceding the time of the Roman conquest, a position which should have been abandoned by this time. As a history of the early period the book is valuable. The great fault with the early history of Great Britain and of this country, is that it dwells upon the exploits of the conquering race rather than upon the character of the conquered. This is avoided by the writer, yet if we could learn more about the Britains and their clan organizations, about the Druids and their mysterious religion, and about the monuments and homes which belong to the conquered people, we should have been better satisfied. The book is a standard in England. It is excellent authority, and has had an extensive sale in this country, having reached the fourth edition.

Documentary History of the State of Maine. Vol. III; containing the Trelawny Papers. Edited and illustrated with historical notes by JAMES PHENE BAXTER. Published by Maine Historical Society, aided by appropriations by the State. Portland: Hoyt, Fogg & Donham; 1894.

The Trelawny Papers preserve for us many particulars concerning the lives of some of the hardy founders of New England, and present to us many pictures of their political and domestic life. Robert Trelawny lived at Plymouth in Cornwall, West of England. He obtained a grant of land including Richmond Island and Cape Elizabeth, and assisted in establishing a colony. A voluminous correspondence between John Winter, the "Governor" of Trelawny's plantation, and the proprietor, with valuable letters from others, throwing new light upon the history of Maine, is contained in the volume. There are several maps showing the patents which were granted, and full page cuts which show the houses and coins of the period, and an albertype of the letters, and a facsimile of the patent itself. The volume is a credit to the Society, which now has its seat at Portland instead of Brunswick.

Evolution and Religion. By HENRY WALD BEECHER. New York. Ford, Howard & Hurlbert.

Mr. Beecher is rapidly becoming a saint in the eyes of the evolutionists. His character as a preacher and theologian has not changed so much as it has as a scientist. The change of base does not, however, make him any profounder as an investigator, or safer as a teacher than he was before. As a popular presentation of the subject of Evolution viewed in its theological aspects, the book is an interesting one and perhaps may be useful to those who find difficulty in reconciling the two systems.

Lebanon, Damascus and Beyond the Jordan. By WILLIAM M. THOMSON, D. D. 147 illustrations and maps. New York: Harper & Brothers; 1886.

This superb book is the third and last of the series issued under the old title of the Land and the Book. The first was entitled Southern Palestine and Jerusalem, the second Central Palestine and Phœnicia, and this is devoted to Beyond Jordan and Eastward. The engravings are excellent and add very much to the interest of the book. We see at a glance the difference between the Roman sculpture and the old Jewish beveled stone. We see also the specimens of Greek sculpture which in this locality are strangely beautiful. A few of the engravings from the old edition are found in the new book but they are few comparatively. Archaeologists will value these volumes for the specimens of architecture which are described and illustrated. For Bible

students, the book is almost a necessity as it illustrates bible scenes so clearly. It is elegant as a work of art and we have no doubt will meet with a ready sale.

Natural Theology or Rational Theism. By M. VALENTINE, D. D. S. C. Griggs & Co., Chicago, 1885.

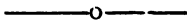
The author of this little book seems to be familiar with the latest phases of thought and has incorporated into his system the various arguments which are furnished by recent studies and speculations in reference to the existence of God, the methods of creation and other subjects. The standpoint is purely theological, somewhat metaphysical; but the author takes in the cosmological scheme as given by scientific men; with the idea of reconciling the old system with the new. He is somewhat successful, and for those who desire to know how Natural Theology, according to the strictly orthodox view may survive the shock of the times, the book is a suggestive and interesting one.

Revision Reasons; a manual for general readers and students of the revised version of the Old Testament, accounting for every change. By the Rev. C. G. GILLISPIE, A. K. C., A. C. P., &c. London, John Haywood, 1885.

This is a very critical and scholarly essay, the object being to give the general reader the means of testing the character and principles of the revision. It is a sort of hand book or aid to the critical comparison of the two versions.

Zur volkskunde der Siebenbürgischer Sachsen. Von Josef Haeltrich. Wien. Carl Graeser. 1885.

A remarkably thorough presentation of the subject and most excellent contribution to the literature and Folk-lore of an interesting portion of Europe. Its contents are folk-tales, stories of the beast-world, gypsies, games, humor, proverbs, etc., and the whole five hundred pages are valuable from cover to cover. Mr. Graeser deserves great credit for this new edition which has been ably edited by Mr. J. Wolf. P.



PAMPHLETS RECEIVED.

JOHN S. WRIGHT.—An address delivered before the Hist. Soc. July 21st, 1885, by Augustine W. Wright, Chicago, Fergus Printing Co.

LIFE Literary Labors and Neglected Grave of Henry Wilde, by Charles C. Jones, Jr., L. L. D.

SOME Observations on the Letters of Amerigo Vespucci, by M. F. Force, read before the Congress International Des Americanistes at Brussels, Sept. 1879. Cincinnati, Robert Clarke & Co.; 1885.

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Universal or Cosmic Time, by Sanford Fleming, C. E., C. M. G., etc., Toronto, Copp, Clarke & Co.; 1885.

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HUMAN FACES IN ABORIGINAL ART.

The imitative art which prevailed among the prehistoric people of this country deserves study for several reasons. 1. Because we learn from it that skill which was well nigh universal, the imitation of objects being a natural gift which was exercised in all its variety by this people. 2. We learn from it what ideas prevailed among this people and what tastes and sentiments ruled them in their attempts at rude artistic culture. 3. We may ascertain what objects were most admired and sought for in ornamentation. 4. We may find what animals and plants formerly abounded in the country, as the objects imitated were mainly from the vegetable and animal kingdom. 5. We also learn about the habits of the people; whether they were accustomed to migrate and then fix upon objects which had attracted their attention, or to remain sedentary and only able to seize upon such objects as came under their own observation and imitate these. On this point there may be differences of opinion and yet the study of the objects imitated will ultimately decide the question. 6. We may learn something about the features and forms of the prehistoric people, as there are many imitations of these among the specimens of native art. 7. We may learn from it the general characteristics of the prehistoric people, as the objects which are presented furnish, not only imitations of the material world about them, but a picture of their own minds and characters. The amount of information which we may receive from these imitative objects is very considerable. It is perhaps equal to that which is gained from the study of their architecture, their symbolism, and perhaps surpasses that which is gained from the study of their ordinary relics or works.

, As to the ways in which their imitative skill, was exercised, a

few words may be said. We have already seen that there were several kinds of material in which imitative figures were embodied, such as figures moulded in clay, or pottery, figures inscribed upon rocks, or inscriptions, engraved upon wood and stone, others drawn upon tablets.

These may be classed as follows :

1. The imitation of vegetable forms. 2. The use of certain conventional arbitrary figures many of which seem to be symbolic. 3. The imitation of animal figures. 4. The imitation of the human face and form.

All of these are important and are worthy of study; but the last named is the one to which we shall call especial attention at this time. The imitative skill of the prehistoric people seems to have been exercised more fully in depicting the human face and form than any other, and therefore should engage our attention.

As to the motives which ruled them in these imitations, we are uncertain and yet we may imagine that the following were prominent :

1st. The imitations of the human face and form, may have been the result merely of a fancy; the playful spirit finding a ready source of amusement in these imitations. 2d. There may have been a religious motive with some. Possibly the personification of divinity was embodied in these imitative figures; or ancestor worship and reverence of the dead may have ruled and made the figures objects of worship. 3rd. There may have been in some cases an attempt to present a likeness, and so the objects must be regarded as portraits. 4th. The imitation of the human face involved skill and the motive in many cases may have been the artistic sense which prevailed.

Other motives may have come in and served to strengthen the imitative skill, but these are the chief. We have taken them as a basis of classification. The division of the relics is from an artistic standpoint and not the industrial; this is the division in which we are at present interested. Ordinarily the relics would be classified according to material; those of wood in one, of stone in another, etc. But in studying the imitative art we must ignore to a certain extent the material, and look only at the imitative shapes. Grouping the relics in this way without asking the question whether they are pottery or pipes, or have any particular use or character, we find a number of relics in the shape of vegetables, or having vegetable ornamentations upon them, these we place in one class. We find a still larger number in the shape of animals, these we put into another class. We find also many specimens which are imitative of the human face and form, these we put into the third class, the class in which we are especially interested. Next we sub-divide the last class into several other classes, according to their motives, and so we make three or four classes from them.

I. We select those which are grotesque in their appearance, and which seem to have been wrought for the sake of fancy, these constitute the first class. II. We next select the specimens which are more normal and regular in their appearance, and which seem to have been designed as imitations of the human face. III. We take those objects which, in their shape as well as attitude, and form and expressions which are given to them, convey the idea that they may have been used as portraits, and make these a class by themselves. IV. We select those specimens which from their form or from the symbols which they contain, suggest the idea that they may have been used as idols, and make these a fourth class. These four classes of objects will come before us for examination and we shall endeavor to study the faces and forms which are presented by them, with a view of fixing certain points which are now uncertain. Our inquiry is not so much as to the relics themselves as to the people who fabricated them. The point which we have in mind is that possibly these imitative forms may give to us an idea as to the real appearance of the people; in other words, we are to examine them as portraits, and ask the question whether they can be regarded as true likenesses.

I. We begin with a cut which combines a variety of figures (Fig. 1) taken from the Smithsonian Archæological collection. Dr. Rau describes them as a special class of aboriginal relics, among which the human body, or parts of it are the most conspicuous. These relics are gathered from many different localities, and present many different kinds of faces. We shall give Dr. Rau's descriptions of them. First. The stone image, (No. 215), he describes as follows: It is more than 20 inches in length, and weighs $37\frac{1}{4}$ pounds. It was discovered in a cave near Strawberry Plains, 16 miles east of Knoxville, Tenn. It consists of crystalline lime stone, the fracture of which can be seen at the back of the head where the figure seems to have been detached from the rock out of which it was sculptured. The face shows a somewhat prominent nose and strongly marked brows, and the eye consists of small oval cavities, while the mouth is ring shaped as in many Mexican representations of the human countenance. A groove extends across the face between the nose and mouth. The ears are unproportionally large. There is no body, properly speaking, but merely a kind of four-sided pedestal with a flat base on which the figure can stand. Its front side shows an appendage in the form of a small apron, which may, however, be intended to mark the male sex. Lastly, there are to be seen on both sides of the figure, cavities, perhaps cut out in lieu of arms."

The second figure (No. 216), was said to have been in the possession of Thomas Jefferson. Dr. Rau says, it is a human head cut almost in life size, in lime stone; there is no deformity in any part of it. It may be the likeness of some aged person with a

deeply wrinkled face." The third (No. 217), specimen seems to be a natural formation, only modified by the carving of round eyes, a nose, and a wide, open mouth. It is made of a dark ferruginous stone, and deserves notice on account of its grotesque character. The next, (No. 218), is a massive slab worked in the



Fig. 1.

shape of a human head, surmounted by an elaborate head dress. It is from Tuspan, Mexico; consists of some kind of volcanic rock; may belong to a large figure. The head measures 15 inches in length and is $13\frac{1}{2}$ inches broad. The next, (No. 219), is a flat carving of the human figure, in which the head alone, in-

cluding a peculiar head dress is carefully, though not artistically, executed in its details, while the body merely forms a sort of appendage. It consists of a greenish grey stone.

Another specimen (No. 220), measuring about $1\frac{1}{2}$ inches in height, and carved from white alabaster, represents a human figure with a remarkable countenance and an unproportionally small body, in the squatting posture characteristic of Mexican images. The neck is pierced for suspension.

Lastly we mention a carving (No. 221), in the shape of a death's head, not larger than a walnut, which was found among the ruins of Chichen Itza, in Yucatan. The flat back of this diminutive representation of a skull, is perforated at each side with a diagonal hole. The material appears to be silicified wood.

It will be noticed that the cut contains the different classes of faces. Some of them are grotesque and distorted; (Nos. 216 and 217). Some of them are more natural and are apparently good imitations, (Nos. 218 and 219). Some possibly were intended as portraits representing the features of different races, or tribes.

We now proceed to a description of the relics and shall first speak of the comical faces.

We present a series of cuts some of which have been used by Mr. E. A. Barber, but which we use to illustrate the point. They contain a variety of faces, all of them grotesque and contorted, they show that there were many ways in which the playful fancy could be exercised. The majority of these are burlesques and seem to have been designed to make sport of some personal defect or peculiarity. In one case, (Fig. 2,) the eye is seized upon and made very prominent, the whole figure apparently having been made to bring out this peculiarity



Fig. 2.

of the face. This cut Mr. Barber has used. It is a vase representing a human head with one

blind eye, from Dr. J. M. Macedo's collection in Lima. The mouth is peculiarly comical and shows that there was considerable skill in moulding comical faces among the Peruvians. Two



Figs. 3 and 4.

other vases from the Macedo collection, (Figs. 3 and 4), are represented, one of which is a laughing face and the other a caricature of old age. In these, different features are seized upon to make caricatures. In one, the mouth, and the other the wrinkles are the most prominent.

Another vase, or jar (Fig. 5,) is described by Mr. Barber as having been found in a deep cutting of the Mexican National



Fig. 5.

Railway near Toluca and deposited in the Metropolitan Museum at New York. The prominent feature in this face is the ear or rather the ear ornament, although the face itself is also something of a caricature of old age. These specimens of pottery show a sportive spirit and yet they exhibit considerable skill in the way of imitation and possibly may have been designed as portraits as well as caricatures; at least, the Indian face is ap-

parent in them. There are many such faces depicted in the pre-historic relics, and it would sometimes seem as if there was a common cast of countenance throughout the entire country; still, we suppose that caricatures are the same in all parts of the world and the ludicrous fig-



Fig. 5.

ures show what is common to human nature, rather than what is peculiar to the American race. A specimen somewhat similar to these is depicted upon a pipe which is owned by Luke Mulluck, Jr., Waterdown, Ontario, Canada. It has a grotesque looking face upon one side of the bowl and an arm running out from the center of the bowl to support the face. It is a caricature of old age similar to those just furnished; it is supposed to be an Indian pipe. Another specimen is given in Fig. 6. It is



Fig. 7.

a modern Indian pipe. The Indian features are depicted in it and yet the face is a decidedly comical one. Two more faces are presented in Fig. 7. This is also a clay pipe from Penn., from the collection of J. M. Gerner, of Muncy, Pa. Two human faces are moulded into the pipe; one possibly intended to represent the male, the other the female. The faces are grotesque and semi-comic: the eye being especially the object which was caricatured. Still another face is presented, by way of contrast, (Fig. 8). This specimen is a stone idol pipe from the collection of Dr. Miesse, of Ohio. It is a better likeness than the other figures but shows by way of contrast how grotesque the pottery pipes are.



Fig. 8.

Mr. Barber speaks of the great clumsy idol pipes, fashioned in the semblance of the human form or head, as if belonging to a more recent period than the mound builders. On this point we

are uncertain. There are many such pipes in Ohio and we think some of them belong to the mound builders. They were simply bowls with a cavity for the tobacco and an orifice for the insertion of a stem; but were carved into the shape of human faces for the sake of ornamentation. They were often of great weight and must have been placed upon the ground when used, the smoke being conveyed through a long reed, which was inserted in the orifice.

We present here some specimens which will illustrate this practice of making grotesque likenesses. These are gathered from various localities. Some of them evidently belong to the later Indians; others however, were of an earlier date. The peculiarity of them all is that the human face is portrayed, but in such a shape or with such an expression as the original object would suggest. We first give a pipe made from stone which is now in the possession of M. A. Gavitt, of Madison, Ind. The stone weighs 3 lbs, 10 oz, see Fig. 9; the stem is upon the side. It is in the shape of a truncated sugar loaf or cone, and has a human face, on the side,



Fig. 9



Fig. 10.

with the eyes closed, a nose that has been bruised, and a large open mouth. This was found in the river bottom sand, seven miles from Madison, Ind. Several specimens made from nodules of iron have been found in Ohio and have been described by Col. Charles Whittlesey.* A description of one (Fig. 10,) is given by him as follows: "It is a nodule of kidney iron ore weighing 2 lbs, 14 oz; 4 inches in height and 13½ inches in circumference. A human face

*See American Antiquarian, Vol. III, No. 1, p. 13

is carved upon the nodule in relief $2\frac{3}{4}$ inches in length and $1\frac{1}{4}$ inches across the face head; radiating from the forehead are 33 short parallel lines, probably to represent hair; and running back from the upper part are marks intended to represent some kind of head dress, possibly feathers. The forehead is crossed by three parallel lines which look like wrinkles. The nose is partly gone and the mouth is distorted." It was found in Stark Co., Ohio,

about 80 years ago. Another relic (Fig. 11,) from the same county is a rudely cut image of a human being in black marble. It was found while digging a well, 12 feet below the surface, imbedded in sand and gravel. It represents the figure seated astride of a stone. The white veins of marble make the figure look rather comical. Colonel Whittlesey says of this, "The mouth and nose are so grossly out of proportion to the head and body that it is probable that this effigy was gotten up as a burlesque." Another specimen was ploughed up in Carroll Co., Ohio, (Fig. 12), represents the human face with one eye closed and one open. This also



Fig. 11.

seems very grotesque in its appearance. Another, (Fig. 13), representing the human head, is carved from coarse sand stone. The head is full size. It was found near the Pennsylvania line some 40 years ago, while the Sandy and Beaver canal was being constructed. It represents the face with the eyes closed, the mouth open, with full chin; hair marked by streaks in the stone above the face. This, if it is a likeness at all, resembles the European face much more than the American. The specimen is remarkable because of this resemblance.



Fig. 12.



Fig. 13.

There are other pipes and vases which are as grotesque and

comical as these: but some of them are intolerably vulgar and we do not present them on this account. Vulgarity was oftener expressed by the attitude of the body though there are a few specimens where the expression of the face and the attitude of the body are associated; the two combining to make certain things supremely ridiculous. An illustration of this is given by a cut which was published in the report of the Peabody Museum, Prof. Putnam calls it an idol and says it is of especial interest, from the rudeness of construction and the manner in which the head dress is represented. It is a pottery jug from a mound in Kentucky. It is the image of a woman represented as resting on her knees, the hands drawn closely across the womb in front; the face has an expression of pain. The image is a grotesque one, and yet it quite naturally represents the face especially when we consider the point which is suggested by the attitude.

Prof. Putnam says that the rude attempt in plastic art must not be considered as a fair example of the capabilities of the people; for there are several other vessels modeled after the human form, in the collection from Tennessee, and not one so rude and uncouth as this. It would seem as if the attempt was to make the attitude and the expression on the face a caricature; possibly in ridicule of a very common circumstance, about which the native women may have had a certain kind of pride, and which they might represent in caricature to show their pride and the sentiment which was common.

Many such specimens have been found among the mounds. They are worthy of attention, not so much because of their artistic merit, for the most of them are very rude; but because they bring before us the real character of the mound builders. It would appear from them that the mound builders were not very elevated in their sentiments, and certainly not very delicate in the expression of them. The specimens which indicate this low and vulgar taste are somewhat numerous; but as they are not agreeable objects in an artistic sense and as they furnish no especial instruction, they are better omitted from the printed page.

II. We now turn to another class of relics and would call attention to the skill of the prehistoric people, in bringing out the peculiarities of the human face and form. It would seem as if the imitative skill of the natives frequently exercised itself in this way. We do not say that they were especially skillful as sculptors, or that they even undertook to portray the beautiful qualities; but they were nevertheless somewhat successful in imitating and representing the different parts of the human face and form. It is a remarkable fact that many of the specimens of native American Art are finished in the round. They are not perfect specimens, and yet this is the peculiarity of many of them. Art in the east is supposed to indicate a somewhat advanced stage of art when objects were finished in the round; but in the

west they appear when art is at a low stage. There are, to be sure, many bas-reliefs in America, and perhaps the best specimens of sculpture are found in these; yet statues are somewhat common, showing that both styles of sculpture had come into vogue. It is worthy of notice that this method of representing the human figure was common among the mound builders; as common in fact, as among the Mexicans, or the ancient inhabitants of Central America. There are but few specimens of bas-relief found among the mounds. It would seem that the style of sculpturing in the round preceded bas-reliefs; but that as art advanced, the native skill transferred itself from one to the other, and yet carried along both styles. This habit of finishing in the round was not confined to pottery, but sometimes appeared in stone sculpture. The human images which were carved out of stone were not always, and, in fact, not often complete; as the legs and lower part of the body were seldom represented, but only the head and shoulders and arms. Perhaps the distinction should first be drawn, however, between the different classes of native artists. We have hitherto while examining caricatures, made no distinction between the specimens, but have grouped them all together; taking those from Peru and Mexico and placing them along with those from the Mississippi Valley, and making no distinction between those which are modern, and those which are ancient.

One of the first questions which arise, is whether the work of the modern Indians can be distinguished from that of the mound builders. On this point there is a difference of opinion and yet the majority perhaps maintain that they can be distinguished. We quote here a few sentences from Mr. J. B. Holder, who has written on the subject in a recent number of the "Naturalist."

"It is not a question of argument but one of things. The pipes and other objects in hard stone should be compared not with pipes in catlimine or soapstone (or clay), *but with objects in the same material*. It is an easy matter to place things side by side, and there will be no question whatever of the superiority of the mound builder's works over that of every tribe known in historic times, any where near the area *occupied*. The same is true of pottery. If we select from any or every collection, the best evidence of form and finish, and place beside them the best specimen of modern work of any tribe east of the Mississippi river, there is a hopeless falling off. Now it is but fair to infer that the people who so skillfully wrought in the hardest quartz, who made pottery in every way equal to that of the Pueblos, were not in the same grade as the tented savages, whom our ancestors found upon our own territory. We hold that a very important matter has been overlooked. It is this: the works of the mound builders of a particular character or grade have not been compared with works of same grade by their successors. If some of

the best productions of artistic handicraft, be compared with objects of a similar nature taken from the mounds, it is more than doubtful if the superiority of the later day Indians can be substantiated. Generally wood cuts are published in this connection, to show the low condition of the mound builder's art. The cuts are copies of casts taken from inferior examples; not one of the fine examples of mound builders' work in hard stone has been figured in these examples." This is the opinion of one who has had an opportunity to examine the specimens in the different museums; in Boston, New York, and Washington, and is worthy of notice. We would say in addition, that the best test is to take the specimens which come from each of the localities where the mound builders had their habitat, and then compare those which were undoubtedly genuine mound builder's relics with those which belong to the later Indians, formerly dwelling in the same district. We maintain that the same difference will appear in the relics that have been noticed in the so-called architectural works. Mr. Holder says, "the great complicated earth works of the mound builders, so faithfully examined and reported by the old explorers, furnish the most important evidence of their superiority to their successors. It is true the Southern Indians built mounds, but does any one seriously compare the works of Natchez and the Muskoki tribes with those of the mound builders? The Iroquois made stockades and enclosures, and Mr. Morgan argued thence, that the works in Ohio were precisely similar in function; but this opinion can not stand."



Fig. 14.

We present here a cut (see Fig. 14,) to show the difference in one particular line of sculpture, that of pipes. One of them has the mound builders' shape; the bowl in the centre, the stem at one end and the ornamented part at the other. Another pipe made from clay is seen in the collection, but it is uncertain

whether it is a mound builder's pipe or that of a modern Indian. The form is peculiar. It has a flaring mouth piece as well as a bowl; it looks as if it was intended to blow through, rather than to smoke in the usual way. The rough appearance of it would indicate that it was Modern Indian, and yet according to Squier and Davis several such pipes have been found in the mounds.

On this point we quote from Mr. E. A. Barber. He says that a century or so ago, native American pipes had lost most of their tribal characteristics, and were made of every available material and in a countless variety of forms to suit the fancy of the individual smokers. It is a singular fact that earthen ware pipes were not made until a comparatively recent period, though certain tribes, such as the Iroquois, of New York, and Lenni Lenapes, of Delaware, moulded their pipes of clay at the time of the discovery.

The material of which a pipe is made cannot be taken as an indication as to its age. Wooden cases which contain mummies have been exhumed from the tombs in Egypt bearing the date of 2,000 years B. C. and if this is the case we may conclude that wood might be preserved for a long time, though in the mounds it would be much more likely to decay than in the tombs of Egypt. The locality is, perhaps, a better test than the material. The pipes which are found in the northwest coast are probably not the work of mound builders. Those found in the State of New York are certainly not all ancient. Still the locality is not always a sure criterion. The pipes which are found in the mound builders' habitat, must be studied with some other point in view. The depth at which a relic is found is not always the test. There are relics which have been exhumed from mines which may be very ancient or quite modern; there is no certainty as to who deposited them. The finish of a carved specimen is a better test and yet this is very uncertain. There seems to be a great variety of opinion on the question whether the ancient races were better sculptors than the modern. The test which we apply with the most certainty is that which is furnished by the human likenesses. There are many specimens of carving which contain so undoubted likenesses of European faces that we are at no loss in saying that they are the work of modern Indians; at least that they are post-Columbian in their origin.

We present here a series of cuts which contain likenesses.

One of them (fig. 15) represents pipes from the State of New



Fig. 15.

York; the other (fig. 16) from Lake Superior. These cuts have been described by Mr. E. A. Barber. Of the last he says, "the Chippewa Indians in the Lake Superior region cut characteristic pipes from a dark colored pipe-stone which they find in the neighborhood. An old Indian who is known by the name of Pwahquneka, is said to be one of the most noted artisans in that section; and his productions are generally conventionalized by the introduction of a row of miniature men or animals carved on the upper surface of the stem-socket or platform. An example of recent Chippewa pipe sculpture has



Fig. 16.

been introduced in the group of old Indian stone-pipes, here figured, which will give a general idea of the majority of examples produced by this tribe. In this specimen, the artist has evidently intended to convey the idea of a boat—two figures being represented in the attitude of rowing, whilst a third is steering at the helm. The bowl of the pipe represents the head of a Caucasian with short hair and stubby mustache."

"Indian pipe-makers have recently displayed much ingenuity in copying objects of European introduction, such as steel tomahawks and spear points, stove pipe hats, horses' heads and the like; and an extraordinary example found in Missouri, which may be seen in the illustrations to which illusion has just been made, is fashioned in the shape of an inverted glass bottle-stopper, ornamented with etchings of hearts and crosses."

The point to which we desire to call attention is the fact that the modern Indians were able to carve out such excellent likenesses and that they have exercised so much skill in imitating the European methods of sculpture. There are likenesses in both these cuts of European faces. There are also imitations of European pipes and in one case, the imitation of the European method of carving human figures throughout in the round. The sunken panel in one pipe is also an imitation of European sculpture. This skill in imitating known forms leads us to believe that they were equally skillful in depicting the faces and forms which are to us unknown. We take, then, the native faces which are found in these cuts as likenesses and conclude

that they portray the features of the aborigines as they were known, and made them likenesses. Whether the artists who dwelt on the continent before the advent of the white man were equally successful, is a question. Judging, however, from the fact that the skill of the early races was, according to all accounts, quite equal to that of the modern, we conclude that the faces which we discover on the pipes are likenesses, and that they bring before us the features of the people who are to us unknown. This is the argument which we use in connection with the carved faces. We maintain that they are portraits.

In reference to the pipes of the Indians, Squier and Davis say "the sculpture of articles which is sometimes attempted by them in imitation of the human figure is often tasteful, but they never display the nice observation and true artistic appreciation and skill exhibited by those of the mounds, notwithstanding their makers have all the advantages resulting from steel implements for carving, and from the suggestions afforded by European art."

III. We turn now to the third head and ask the question whether the sculptured faces are genuine portraits. This is an important point for if it is true that we have the actual features of the prehistoric race preserved, we shall by the means be able to determine the different migrating lines and ethnic affinities of the races and perhaps solve other problems. One singular fact is brought before us by the specimens of art, the faces differ very much. This would indicate that the American races were not all exactly alike. There may have been perhaps a general affinity and all may have belonged to the same stock, but judging from the likenesses we should say that there were different races as well as tribes. The dividing lines are, however, geographical rather than chronological. The contrasts between the faces are seen, mainly, as we travel from one district to another; rather than as we gather relics from the same district. Where there has been a chronological succession of the different branches of the same race, we find it somewhat difficult to draw the lines between the portraits carved on the prehistoric relics; but where races are widely separated and are acknowledged to be different in their origin and characteristics, we find the contrasts between the portraits very marked. The relics confirm tradition; Archæology and Ethnology correspond, and parallel lines of study are in harmony. If we take the relics which are gathered from the Mississippi valley, we may trace a general resemblance between the features of the Modern Indians and those of the Mound Builders; and will come to the conclusion that here there has been a succession of races and that all belong to the same general race or stock and are closely related. But if, on the other hand, we examine the relics and monuments of the different parts of Central America especially in Yucatan, we find the faces portrayed on them differing very essentially from these and we con-

clude that they are the portraits of an entirely distinct race, the Mayas and the Mound Builders having had scarcely any affinity.

Again, if we examine the relics and sculpture of the regions formerly occupied by the Aztecs and Toltecs and we shall find a very great resemblance between the features of these different races as they are portrayed upon the monuments. But if we pass from Mexico and its provinces into Central America where the different parts of the Maya race are, we find that the contrast is as great as that between the Mound Builders and this people; and the difference between the Nahuas and Mayas is plainly brought out.

We now propose to illustrate this point. We shall first present portraits from the region of the Mound Builders and call attention to their characteristics. We shall next furnish portraits of the Mayas and refer to the features which are everywhere seen. We shall, in the third place bring together a few portraits from the scattered provinces where the Aztecs and Toltecs were known to have dwelt and call attention to the characteristics of this once powerful race. We think that our readers will be led to the conclusion that the sculptures furnish the portraits of three distinct races. The monuments and the traditions correspond. The portraits confirm the history. If the sculptured faces are portraits we must consider them as good tests for determining their affinities. We propose to make the inquiry and put the sculptured relics under scrutiny with the view of ascertaining whether there were not three distinct races on the continent.

1. We shall enquire about the Mound Builders and put the relics furnished by this people to the test.

We select specimens from one particular district of the Mound Builders, namely that of Ohio, as more portraits have been found in this region than any other; and yet we believe that if our readers would compare these portraits with those which may be gathered from the other parts of the Mississippi valley they will find a general resemblance. The peculiarity of these portraits is that they all have an Indian look about them. They differ from one another and yet this is the characteristic of all.

The portraits from the mounds, to be sure, have more marked characteristics and indicate that the people who built the mounds were in many respects superior to those Indians which have until recently occupied the same territory. Still, we acknowledge that they all had the same ethnic peculiarities, and if they differ from one another, yet they must have belonged to the same great race.

We present a series of cuts to illustrate this point. These were originally taken from the great work on mounds, *Ancient Monuments*. It will be noticed that the same general cast of features are given by these portraits; and yet if our readers will examine the cuts which are found in the same work and which

particular style of platting the hair, rises into protuberances or knots (horns). Encircling the forehead and coming down as low as the ears is a row of round holes, fifteen in number, which when the head was found, were filled in part with pearls completely calcined; the holes were doubtless all originally filled in the same manner." The string of pearls and the head dress shows that the Mound Builders had great taste in ornamenting the head, and that the sense of beauty was well developed in them.

Of the next figure, (Fig. 18) the authors say, "this is the most beautiful head of the series, and is evidently that of a female. It is carved from a compact stone which is much altered and in some cases the color entirely changed by the action of fire. The muscles of the face are well exhibited and the forehead finely moulded. The eyes are prominent and open and the lips full and rounded."

* * "The workmanship of this head is unsurpassed by any specimens of Ancient American Art which has fallen under the notice of the authors, not excepting the best productions of Mexico and Peru."

It should be said of the four pipes which were taken from this



Fig. 18.



Fig. 19.

altar, each one presents a different face; in fact so different that we can hardly recognize the tribal features in them. Fig. 19 is composed of a compost yellow sand stone. Its features are

more regular than either of the preceding examples. The nose turns up slightly at the point and the lips are prominent. It has been suggested from the delicacy of the features that this was designed to represent a female, and at least three types are represented in them. This is singular, for all were found in the same mound. It proves however that the Mound Builders were divided into tribes, and that these tribes were frequently associated together very much as the Indians of the later tribes. In fact some have said that these particular mounds were built by the Indians and it is a question whether they do not represent those very same tribes which are known to history.

In reference to this question of portraits we are not confined to the pipes of Mound Builders, or of the later Indians. There are many specimens of art found in other parts of America which present human faces and to these we would call attention as well worthy of study.

2. We then turn by way of contrast, to the Maya portraits. These are taken from Stephens' work on the Antiquities of Yucatan and Central America." They represent the figures



Fig. 20.

which are contained in the bas-relief at Palenque. It should be said that all of the statues and bas-reliefs at this place furnish the same cast of countenance, the prominent nose and retreating forehead being characteristic of all. There are many portraits in these tablets and all of them are of the same type. Stephens has furnished eighteen plates, illustrating the different figures which he discovered in the palaces at Palenque, and in the plates there are at least twenty-eight different figures, all of them having the same forehead, nose and lips, as those which are here presented (Figs. 20 & 21.) He has also described the stone columns or idol

pillars which he discovered at Copan. These have figures and faces which differ very materially from those at Palenque.

The explanation of this is not given. In reference to the portraits at Copan, at Chichen Itza and at Palenque a variety of opinion has been expressed. Waldeck sees in some of the figures features of the Caucasian type. Bancroft, on the other hand, has discovered an Ethiopian head at Vera Cruz and quotes from Senor Melzar who supposes that the

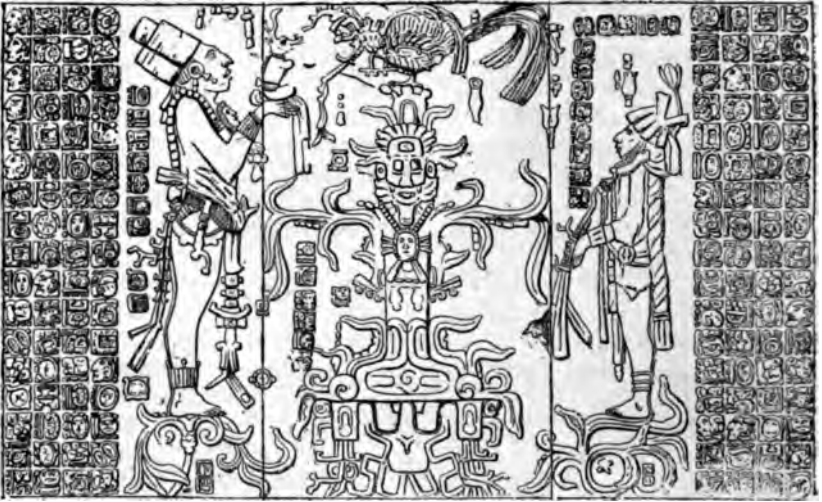


Fig. 21.

Negro race lived in America before the coming of the Spaniards. A portrait is also presented by Bancroft from Waldeck's drawings which has the Anglo Saxon cast. This was found at Copan, and is very striking in its appearance. The Egyptian type has also been recognized in the monuments. It would seem, then, that there was considerable confusion in the minds of the different authors as to what race these portraits belong. The opinion of Stephens is, however, the most correct; he says, "I invite to this subject the special attention of those familiar with the arts of other countries; for unless I am wrong we have a conclusion far more interesting and wonderful than that of connecting the builders of these cities with the Egyptians or any other people. It is the spectacle of a people skilled in architecture, sculpture and drawing, and possessing the cultivation and refinement attendant upon these, but originating and growing up here without models or masters; having a distinct separate, independent existence, like the plants and fruits of the soil, indigenous." "There is no resemblance in these remains to those of the Egyptians, and failing here we look elsewhere in vain." In reference to the faces found at Palenque and presented in the cut, (Fig. 21), Stephens says: "the upper part of the head seems to have been compressed and lengthened perhaps by the same process employed upon the

heads of the Choctaw and Flathead Indians of our own country. The head represents a different species from any now existing in that country and supposing the statues to be images of living personages or the creation of artists according to their ideas of perfect figures, they indicate a race of people now lost and unknown." In speaking of the portraits which are presented in the following cut, (Fig. 20), he says: they are adorned with rich head dresses, and necklaces, but their attitude is that of pain and trouble. The design and anatomical proportions of the figure are faulty, but there is a force of expression about them which shows

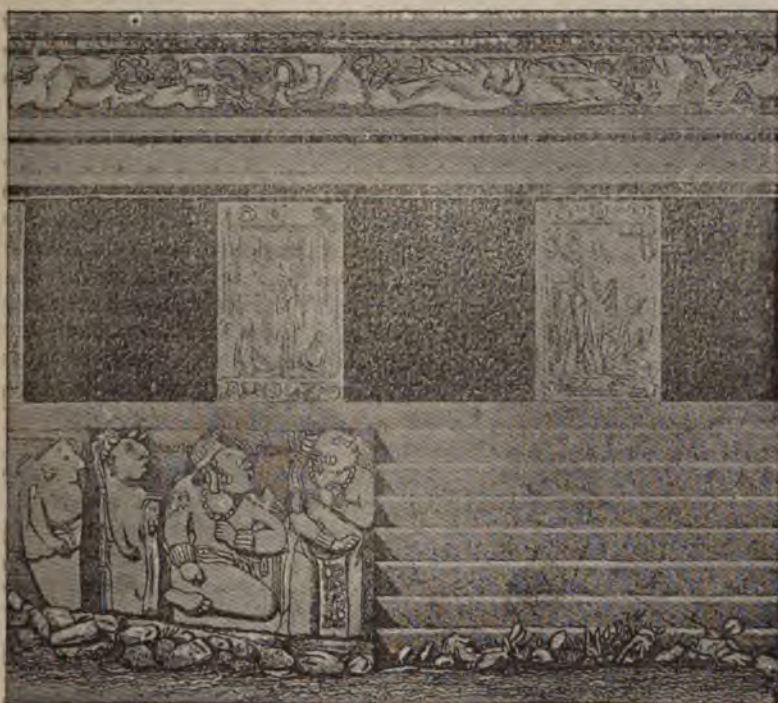


Fig. 22.

the skill and conceptive power of the artist. In reference to the point whether these are representatives of the Maya race, we have to say: that they are found on the territory where the Mayas had their habitat and seem to have been designed to represent the race features. There are, however, several objections to this view; first, faces are, as we have seen, found in the same region which are entirely different and these may be portraits of the Mayas rather than those found on the tablets. These faces are engraved upon idols, moulded into pottery, sometimes painted on the ancient manuscripts and contained in the architectural monu-

ments, and perhaps are as likely to be portraits as those which we have described. Again, the faces which are figured in bas-relief are mainly found in the temples and may have been intended not so much as portraits as symbols; the attitudes of the divinities being symbolized by them. Again the faces are in profile and are conventional in their character, and generally have similar head dresses and ornamentations. Another objection is that the carved columns found at Copan furnish a very different type from these in bas-relief, and the columns are quite as likely to have been designed as portraits as the tablets. The statues at Palenque have the full face resembling those at Copan, while the hieroglyphics have profiles resembling those in the tablets. There seem to be many objections to the position taken that the Maya type is to be recognized in these faces which have such retreating foreheads. Yet, the fact that they are so numerous would indicate that there was a class of people among Mayas which were characterized by this trait. It may be that portraits are designed to represent either the priests or the ruling class; and that artificial depression was practiced among them. Perhaps, then, we have an explanation of the difference between the different faces, the carved columns containing the portraits of the Mayas in their normal condition; but the tablets contain the portraits of the deformed ruling or priestly cast. It may be that on this very territory of the Mayas we have two distinct races, the one portrayed by the carved columns and the other by the tablets. Which was the earlier and which the latter must remain undecided.



Fig. 23.

3. We next turn to the Aztecs. It is a remarkable fact that in Mexico, the home of the Aztecs, we have many human faces

but they nearly all differ from those found among the Mayas. These are found on the sacrificial stones and on the altars and seem to have a sacred character somewhat resembling those found on the tablets at Palenque. They are generally in profile and have head dresses and ornaments which are evidently intended to be symbolic. The comparison of the faces with those before given will convince us that the sculptors copied after a different type and the query is whether the one does not represent the Nahuas and the other the Mayas. We furnish a cut (Fig. 23), to illustrate this point. It represents sculptured figures on the sacrificial stone at Mexico. Of this, Mr. Bancroft says, "the whole circumference of the stone is covered with sculptured figures consisting of fifteen groups; each group contains two human figures, apparently warriors or kings; victor and vanquished differing but little in their hieroglyphic signs which may express their names or those of their nations." According to Gama, these sculptured figures represent by the thirty dances, the festivities celebrated twice each year, and also commemorate the battles and victories of the Aztecs; the hieroglyphics being the names of conquered provinces." There are images and idols in Mexico which present the faces with a front view; these differ from the faces in profile, and they have a character somewhat similar. We nowhere in Mexico find the negro-looking faces such as are found at Palenque. We do not see the deformed head or the face with the retreating forehead. Whether the Aztec type of countenance is presented by these or not, we are sure that the ideal head in Mexico was very different from that in Yucatan. There may have been among the Mayas a type of beauty and a fashion which consisted in producing a head with the deformity of a retreating forehead. This, by some might be regarded as Aztec; but according to the monuments we find it nowhere among the Aztecs or the Nahuas; but we do find it on the Maya territory. We know that Nahuas were different in their origin from the Mayas, as they are supposed to have come from the Northwest while the Mayas, from the South. The question is whether we have the portraits of the two races in the monuments.

We have now given the specimens of art from the three different distincts. I have shown in these specimens that there are types of faces which may well be considered the portraits of three distinct races. Probably our readers will be able to recognize in these portraits a faint resemblance as if a common stock was contained in them, yet the differences or contrasts are much more needed than the resemblances. The conclusion which we draw, is that if the Mound Builders, the Mexicans and the inhabitants of Central America are really represented by them that they are all quite different in their appearance and as well as in their cultus, and probably belonged to different branches of the same great race.

EXPLORATION OF APPARENT RECENT MOUNDS IN
DACOTAH.

Read Before the A. A. A. S., at Ann Arbor Meeting.

What are generally known as "Indian Mounds" are not uncommon in Dacotah, especially in the vicinity of the Traverse and Big Stone lakes. The most interesting mounds, however, are in Brown county, in the valley of the James river. I had a good opportunity to examine these mounds before they had been defaced in any way by civilization, and was assisted in making the following plot by the surveyors who ran out the township and section lines.



Fig. 1.

The mounds as shown in the illustration are 29 in number and from 5 to 10 feet in height. The largest mound was about 50 feet long and 30 wide at the base, and 10 feet high. The smallest about half this size. They are all oval in shape. They very much resemble in appearance the ancient mounds in Illinois, Indiana and Missouri. But that which is of much interest is that some of them are connected by paths made from the bones of the buffalo. In the group shown near Willow creek, on the Elm river, three mounds are thus connected by a path of bones. The distance along the path from the first mound to the larger one in the center was about 500 paces. With a tape line we measured off fifty feet in the pathway and counted the bones in this space. There were (492) four hundred and ninety-two.

The bones are almost all the leg bones of the buffalo, each bone being broken apart in the middle, evidently to obtain the marrow.

The bones in the pathway were only partially buried in the ground, and the glistening white line could be distinctly seen for two or three miles before we reached the elevation on the side of which the mounds were. Excepting those in the path, but few other bones were to be seen over the barren dry prairie.

Farther down the Elm river, a few miles from the newly built village of Ordway is another, and larger group of mounds also occupying a slight elevation overlooking the shallow valley of the Little river. As seen by the illustration there are four mounds here connected by a path of bones.

In forming the path the bones have been simply laid down side by side and the path was little wider than the leg bones of the buffalo.

After finishing our sketches we spent two days exploring in these mounds. The material of which they are made is the black earth from the surface of the surrounding prairie, mixed however, with pebbles and glacial gravel. The digging was very difficult on account of the compact

nature of the soil, which was dry as dust. We made excavations in four. The result in all was similar. At the base of the

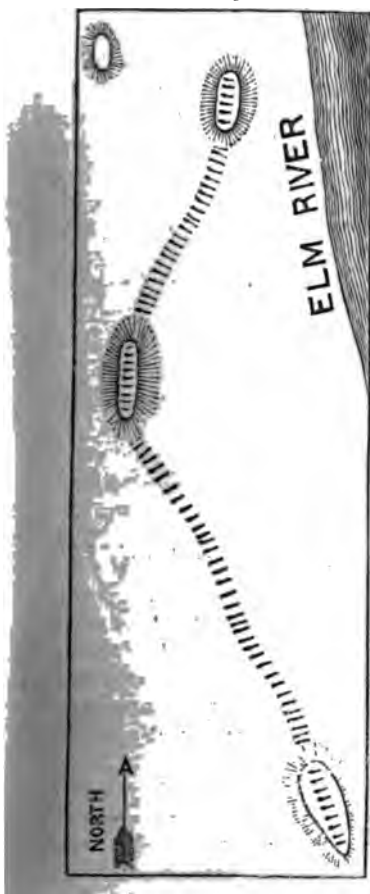


Fig. 2.

mounds near the centre was found a mass of human bones, both male and female.

The bones were in a state of good preservation and lay so close together and somewhat in confusion that I was inclined to believe they might have been denuded of flesh before burial. Of this I could not be certain.

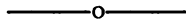
I obtained a number of entire skulls; they had the dark color of the earth and did not have the appearance of great age.

The skulls were of the Brachycephalic order, those of the men being strong and heavy and of decided Indian characteristics.

With the skulls here figured were found a number of the teeth of buffalo, and one very old tooth which I was careful to preserve, thinking it might prove to be that of a horse. Prof. Cope, however, thought it to be a buffalo tooth.

There was no sign of iron or any metal only implements of stone. One of these was a small stone axe or celt of diorite about 4 inches in length. There was also a rude arrow point of a redish jasper. Whether the path of bones was the work of recent Indians we could not tell, but evidently the bones had not been in their position many years. Notwithstanding the mounds had an appearance of age I believe them to be of modern origin. No Indians have lived in the vicinity for many years.

WM. McADAMS.



THE BEGINNINGS OF WRITING IN AND AROUND TIBET.

Under this title Professor Terrien de Lacouperie, who occupies the chair of Indo-Chinese Philology in University College, London, has published in the Jour. Royal Asiatic Society, Vol. XVII, Part III, an elaborate and valuable discussion on the history of writing not only in the vicinity of Tibet but in eastern Asia generally. From the facts there collected we are able to observe the present or recent existence of the ruder stages which are supposed to have marked the development of this art the world over.

Among the earliest substitutes for written messages are material objects carried singly or in groups and naturally suggesting the intention of the sender. Thus, the Lu-tze, a rude tribe on the Tibeto-Chinese frontier, send as a war challenge a piece of chicken liver, three pieces of chicken fat, and a chili, wrapped in red paper. The Li-su, a neighboring tribe, combine with such objects notched sticks to indicate the number of people on the war-path. According to Chinese annals, the Tibetans in early times summoned the people to war by messengers carrying 6000 arrows. The Kakhyens of Upper Burma string ~

the paths leading to their villages, on which are placed small stars of split rattan, and other objects which seem to form a sort of rude hieroglyphics. We are told that the Tang-hiang of north-western Tibet used, as late as the sixth century, arranged reeds and pieces of wood to mark periods of time; and that the Ju-Juan people of Tartary used goat's dung for a similar purpose as late as the fifth century. So the aborigines of Formosa mark the passage of days by stones or knots in grass. The system of records known as *quipus*, or knotted cords, which was carried to such perfection in Peru, was once used in Tibet, if we can believe Chinese historians; though we are not informed as to the manner of their use. The same custom was probably in vogue among the aboriginal tribes of China but was not practiced by the ancient Bak tribes, or early Chinese settlers of the country, who, as Professor de Lacouperie supposes, were already acquainted with a more advanced system of writing when they entered China. Even now the illiterate Santals of Central India, according to Mr. Man, use knotted grass-strings in keeping their accounts. Marco Polo relates that the people of Western Yunnan, when they make a contract, split a piece of wood, each party to the contract taking half. When the business is concluded, the creditor hands his own piece over to the debtor, who keeps it as a receipt. Dr. Anderson relates that the Kakhyens keep records by making fractures at various distances in a strip of bamboo. The use of notched sticks as tallies seems to have been general in central and eastern Asia. The writer believes that the *Kwas*, or sets of lines which are placed at the head of chapters of the Yh-king, and which have hitherto baffled the ingenuity of scholars to decipher, are nothing less than a survival, in writing, of notches on wood. This substitute for writing was once widely prevalent in the Occident, as well, and is still in use by tradesmen in some parts of Europe. Boys use it in their plays, as they do so many other customs which belonged to the serious occupations of their ancestors.

Not only are rude tribes often incapable of inventing alphabetic signs for themselves, but they are sometimes unable to comprehend those which intercourse with more civilized peoples has brought within their reach. If they adopt them, it is often to distort and misapply them. Thus, the Lo-lo of the province of Szetchuen have alphabetic characters, which seem to be derived from India, but which are no longer understood in their original sense. The separate characters have ceased to be used phonetically, but are united in groups, after the manner of the Chinese, and treated as ideograms. Another instance of retrogressive writing, as Professor de Lacouperie understands it, is that of the Chinese. As the result of long investigation, he has reached the conclusion that Chinese writing was imported from the West, and, though now written in columns, is derived from a which was written horizontally, and which itself had an

earlier hieroglyphic source. The rude characters, suggesting picture-writing, which are found on vases and have been supposed to represent the earliest Chinese writing, the Professor does not regard as ancient at all, but as bungling forgeries of comparatively modern times. The theory of a western origin finds some support from Chinese tradition, which represents that the primitive writing was cut into soft material; that some strokes were thick at one end and thin at the other; that they were designed from the prints of birds' claws on clay; or were like tongues of fire or drops of rain freezing as they fall. There are suggestions in this of the wedge-shaped characters of western Asia. We learn further that "the oldest phonetic order in the Chinese phonetic groups is from left to right, and also, curiously enough, from bottom to top, the latter resulting, at first, from the turning up of groups originally written horizontally." The early Chinese immigrants brought a language which had a strong tendency to agglutination, but they found the country occupied by tribes speaking languages of a simpler type, and it was by an intermingling of these diverse elements that the present Chinese language and its dialects were evolved. Such appears to be the view of the author of the paper.

The Mo-so are a large aboriginal tribe of north-western Yunnan, who once had an extensive and powerful empire in western China, but have long been under Celestial rule. It has been supposed that until their absorption by the Chinese they were without a knowledge of writing; but a few years since a distinguished missionary, Pere Degodins, discovered among the Mo-so some pages of manuscript containing what seemed to be writing in hieroglyphics. In communicating this information he says: "These hieroglyphics are not, properly speaking, a writing, still less the current writing of the tribe. The sorcerers or Tong-bas alone use it when invited by the people to recite these so-called prayers, accompanied with ceremonies and sacrifices, and also to put some spells on somebody, a specialty of their own. They alone know how to read them and understand their meaning; they are alone acquainted with the value of these signs, combined with the numbers of the dice and other implements of divination which they use in their witchcraft. Therefore these hieroglyphics are nothing else than signs more or less symbolical and arbitrary, known to a small number of the initiated, who transmit their knowledge to their eldest son and successor in their profession of sorcerers. Such is the exact value of the Mo-so manuscripts; they are not a current and common writing; they are hardly a sacred writing in the limits indicated above." Professor de Lacouperie, to whom this writing was submitted, remarks that it is an "anomalous mixture of imperfect and bad imitations of ancient seal characters of China, pictorial figures of animals and men, bodies and their parts, with several Tibetan and Indian charac-

ters and Buddhist emblems." He adds, however, that it may be the survival of a system of pictorial writing which sprang up here, but whose development was arrested by the intrusion of a more advanced system, so that now, with its admixture of foreign and later material, it only serves the purpose of the necromancer. We have already alluded to the figures in use among the Kakhyens of Burma.

Tibetan historians inform us that writing was first introduced into their land in the reign of King Srong-btsan-sgam-po in the 7th century A. D.; but they do not tell us definitely what was in use as a substitute before his time. As the story is told, the king soon after ascending the throne sent a deputation of seven nobles to India to bring back a system of writing for the Tibetan language; but these failing to find a road thither, he later (632 A. D.) despatched a second company, consisting of 17 persons, who successfully accomplished their mission, bringing back Buddhist manuscripts and some form of the Sanskrit alphabet. From the latter they adapted the characters now in use to represent Tibetan sounds, a few of which are foreign to the Indian system. These letters are in two principal styles: the so-called "letters with heads," which are commonly used in printing; and those with less angular forms and better adapted to cursive and ordinary use.

JOHN AVERY.

Correspondence.

MOUND EXCAVATION IN TENNESSEE.

Editor American Antiquarian:

According to promise I send you a brief notice of some explorations recently made by Mr. John W. Emmett (with whom you are acquainted), in East Tennessee. He has just sent in, with the articles collected, a short, preliminary account of his work from which I extract the following notice of one mound.

This is situated on the south bank of Little Tennessee River not very far from the site of Old Fort Loudon. The group to which it belongs in all probability marks the site of one of the Cherokee "Over-hill Towns."

Mr. Emmert says "I found this 'Big Toco Mound' as it is called, measured at the base, one hundred and forty-four feet east and west, and one hundred and thirty-eight north and south. The top, one hundred and four feet long and eighty-eight wide, was flat but considerably sloped, the height at the west end being twenty-four feet, but at the east end only eighteen. There is a considerable depression in the surface of the ground adjoining the north, south and west sides, probably made by taking from thence the dirt with which to build the mound, as a large portion of the earth of which it is composed is similar to the surface soil around it. Although the upper half is composed chiefly of this black earth, there were in it a number of streaks or thin layers of yellow sand, of red burnt clay, and also of charcoal and ashes. I found these layers from within two feet of the top down to the depth of nine feet, where we struck a very hard yellow earth which continued down to the original surface of the ground. No one of these layers covered a very extended space, nor could I notice that any regularity prevailed in regard to form or relation to each other. Many of the skeletons had a hard crust of burnt clay on top of them, though the earth immediately around them was very loose, and the layers of burnt clay were usually broken up."

"A little north of the centre there was a large fire-bed, or rather series of fire-beds, or hearths of burnt clay, with intervening layers of ashes. I struck this series at the depth of two feet from the top, and found it extended downward about six feet, the layers increasing in extent laterally as I went down. No skeletons were found in contact with this series of beds. In several of the layers I found the remains of wooden stakes which had been

"driven into the surface of the beds. The portion which was then above the surface, had been burnt nearly or quite to coals, and the lower ends, which had not been burnt in some cases, completely rotted, leaving only the holes and slight fragments, while in other cases they were more distinct. Some of these were within three feet of the surface, others at the depth of six feet. Wherever I found the remains of one of these stakes still in position, I always found a bed of coals and ashes, and in some instances, pieces of burnt human bones."

Mr. Emmett is probably not aware of the strong bearing this discovery has on a statement made by Mr. Ramsey, in his "Annals of Tennessee," which appears to have been overlooked by our writers on American archæology. Speaking of a Mrs. Bean taken captive by the Cherokees at Watauga, in 1776, he says she was carried to their sacred town, (which was near Fort Loudon,) was bound and taken to the *top of a mound to be burned*, but was saved by Nancy Ward, then exercising the functions of the "Pretty Woman" of the tribe.

"Fifty-six skeletons," says Mr. Emmett, "were found disposed respectively as shown in the drawing herewith sent. The depth at which they were placed, varied from four to seven feet, except skeleton No. 29, which was buried nearly perpendicularly with the head downward, the skull resting on the hard yellow earth, at the depth of nine feet."

"Most of the celts, (which are all polished, and similar in appearance to those discovered in the North Carolina mounds) were found near the heads of the skeletons, as were the pots and other clay vessels. In most cases the shell beads were about the neck though there was one exception to this rule. I would call particular attention to the ornamented or engraved shells, of which I have taken the best care I could, though they are very tender."

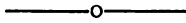
"The most interesting skeleton to me was the one numbered 49. As will be seen by reference to the diagram herewith sent, (which cannot be given here, as it has not yet been prepared for the engraver,) this was nearly in the center of the mound, lying with the head southwest, and eight other skeletons lying close around it, all with their heads turned toward it. With one of the surrounding skeletons I found a celt, a discoidal stone, two bone implements, a soapstone pipe, an engraved shell, and a bear's tooth, all lying about the head. With the central skeleton were the following articles; three very fine polished celts, a drilled stone, an owl-shaped water jug, a large spear head, a soapstone pipe, a pot, three engraved shells, 29 bone implements, some pieces of mica, 36 arrow points, and a number of unusually large shell beads. The bone implements, mica, and a number of flint nodules, were about the right hand which lay near the hip. All the other things except the shell beads were lying about the head and neck. The beads were on, under, and about the hip bones, apparently in two rows, as though they had been attached to something that encircled that part of the body."

The specimens obtained by Mr. Emmett, of which only a part are mentioned in the preceding brief report, have all been received at the Bureau office, and with them a list and diagrams, showing the point in the mound where each was found. Among them is an unusually large shell, (*Busycon perversum*); though much decayed, enough remains to show that the length was between sixteen and seventeen inches; several unusually large shell masks, similar to those represented on page 450, third Annual Report Bureau of Ethnology. But the most interesting articles are the engraved shells, one of them precisely of the type shown on page 452, third Bureau Annual. Two others belonging to the same general type, with Mexican designs, but different in details and figures from any hitherto observed.

These shells, of which several specimens have now been discovered, bearing as they do beyond question, Mexican designs, present a very difficult problem for solution. There can be scarcely a doubt that the mound described was built by the Cherokees; this is shown by the pipes, of which quite a number were obtained, some of them of comparatively modern type. Moreover, this conclusion can be well nigh established by history. This being admitted, as I am satisfied it will be, when all the facts and evidence bearing on it are made known, how are we to account for the presence of these Mexican designs in this region?

CYRUS THOMAS.

Washington, D. C., Jan 2, '86.



THE LEGEND OF CHICAMECA'S HEAD.

To the Editor American Antiquarian:

About six miles south west of Louisville, Mississippi, upon the crest of a high hill in the midst of a primeval forest, stands an upright stone, about three feet high, cropping out of the earth, which bears a rude resemblance to a gigantic human bust—head, neck, and shoulders. This stone had early attracted the attention of the Choctaws, who called it "Chicameca's Head," and the following legend was related by them in regard to it:

At some period in the far distant past, the Choctaws lived in a western country, where they were tributary to a powerful people called the Chicamecas. From some cause, they resolved to leave this country and seek a new home toward the rising sun. After crossing the Mississippi, they heard, to their dismay, that a large army of Chicamecas, under their chief Chicameca, was in hot pursuit, resolved to force them to return to the land of bondage.

Chicameca finally overtook the fugitives, and gave them the alternative of obedience to his demands, or else utter extermination. The Choctaws chose the latter, and prepared to fight to the last. Chicameca then urged his warriors to the onset. He had just given the loud war-whoop, when suddenly the earth opened be-

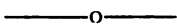
neath his feet, and the mighty chief Chicameca sunk out of sight in the yawning chasm. His army saw the sight and fled in wild dismay, leaving the fugitive Choctaws to pursue their way in peace.

The beating rains of many centuries falling upon that hill at last unearthed or unveiled the petrified bust of the renowned chief Chicameca, with his stern face lowering towards the south; and there, if not destroyed by vandalism, the stone image of the prehistoric warrior will remain for ages to come.

Such is the legend of "Chicameca's Head," as was related to the writer some years ago by W. T. Lewis, Esq., of Winston County, who in early life heard it from the lips of an aged Choctaw.

H. S. HALBERT.

Philadelphia, Mississippi.



RELICS IN EASTERN OREGON.

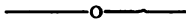
When we cross the Cascade Mountains and go into Eastern Oregon, many of the specimens of the ancient Indian work differ very largely from those in this Willamette valley and Puget Sound. Mrs. J. H. Kunzie of the Umatilla Landing, has a very excellent cabinet of such specimens, most of which were collected near their residence at the mouth of the Umatilla river. The beads are of antelope teeth, shells of several kinds, some of them being of dentalia, though not many, stone, and glass. I have seen nothing similar to any of those west of the Cascade mountains, except those of the dentalia shell. The glass beads are unlike those of American or English manufacture, being far less clear. I think they were made in some way by the Indians. The largest stone beads are two and a quarter inches long and weigh about two ounces, while some are much smaller. They are oblong square, and round.

Some of the stone pipes are straight with carvings on them. The largest is four inches long and weighs nearly half a pound. A smaller one is six inches long and weighs six ounces. I have not seen a straight one found west of the Cascade range. A calendar stone, with marks on one side showing the number of months in the year, and on another side the number of days in the month, is three feet long and weighs thirty pounds. Its like I have not seen on this coast. A metate of stone weighs fifty pounds, is nineteen inches long and thirteen wide. She has a third baboon similar to those in Portland and East Portland, which has been traced to the region of Eastern Oregon. This one is seventeen inches around, five and a half high and weighs seven pounds. An idol or totem post of black stone, which however, did not come from this region, weighs eleven pounds and is twenty-one inches long, most of the pieces of an idol or image of shell, well-carved,

have also been found in this locality. A large number of arrow heads are in this cabinet, which have been found at this place. Some of them are very small and delicate, and beautiful, seemingly about as much so as it is possible to make. Here was plainly a manufactory of these articles, as the chips lie around in great numbers, but the stones of which they were made were brought from far away, as they do not belong to this region. Lance and spear heads, sinkers, pestles, mortars and the like are also found in this cabinet. It is a very valuable collection, from the scarcity of some of the articles, and the difference between them and those west of the Cascade mountains. The stone of which some of the articles are made is not found on the banks of the Columbia in a thousand miles travel, and is not known to our geology west of the Blue mountains. Tradition says some articles came from the Crows, and it is probable, as these Indians formerly went to the Crow country to hunt buffalo. Most of these articles are very old, the present Indians not being able to give information about them, and caring nothing for the graves where they are found.

M. EELS.

Shokomish, Wash. Ter.



MOUND RELICS OF OREGON.

Editor American Antiquarian:

Many wonderful things of Indian workmanship and origin are found on the Pacific coast, but nothing more wonderful than the mounds which are found on the California Creek, Linn County, Oregon. These mounds are perfectly round in shape, from three to eight feet in height, and from 50 to 150 feet in diameter. I have opened a large number of them but will confine myself as requested, to the relics in my collection, which belonged to these mound builders. There are two classes of relics, bone and stone. The stone relics consist of mortars, pestles, knives, drills, scrapers, arrow and spear heads, and beads. The mortars are of various sizes and shapes, the largest one in my collection will hold about four pints, half gallon. The stone of which they are made is a kind of gravel, very hard, of a blue color. They are very scarce.

The pestles are of all sizes from five to thirteen inches long, some of them being very nicely polished. They are made of the same kind of stone as the mortars.

The knives and drills are from one to two and a half inches long. They are generally made of flint or jasper.

The arrow heads are very fine, they are from a quarter to three-quarters of an inch long and are made mostly of obsidian but some times of carnelian, chalcedony and jasper. They are now being used for jewelry, as charms, etc., etc.

The beads are very rare. There has never been more than one or two dozen found. They are made of a blue stone, which very

much resembles glass. There is a ledge of this stone near Mt. Jefferson. It is supposed they obtained the stone there.

BONE RELICS. The bone relics consist of beads, charms, needles, besides articles of which I have no idea as to their use.

The bone beads are made of the leg and wing bones of a bird, tibia and femur. They are only found on the skeletons, around the neck and hips, and sometimes in the hands.

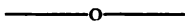
The charms are flat or round pieces of bone with strange marks running in all directions over them.

The needles are from three to five inches long. Some of them are highly polished.

I think they are used more like an awl than as needles. While opening these mounds I sometimes find a sharp hollow tube which has been pronounced Indian money. It resembles ivory, is white and hard. These tubes are usually about half an inch long, and covered with curious marks which, it is claimed, represent the value.

G. M. POWERS.

Shedd, Linn Co., Oregon.



ANCIENT FIRE-PLACES ON THE OHIO.

At Blue Banks, about one and a half miles above Portsmouth, Ohio, there are many old fire-places. During high water the river banks cave off and leave them exposed to view. The best time to find and explore them is after the water has receded enough to make a trip along under the bank. At the place named above, they occur at various levels, from near the top of the bank to about thirty feet beneath. At one point there are seventeen different levels on which they were visible.

There are three different classes of these fire-places. Those on the lower levels only show a burned streak of clay from five to eight feet in diameter, with but a slight concavity, on which are found ashes, charcoal, burned stones and bones, with an occasional fragment of pottery, composed of broken stone and clay. At about twenty feet down they are the most numerous, and many of them are from one to three feet deep, and are lined with flat stones. The clay, outside the stone, bears evidence of intense heat. In some instances they are nearly filled with ashes and charcoal. The pottery from within them is composed of shell and clay. Above the latter level, while not so numerous, they are more interesting, from the fact that more or less fire relics are obtained from them. They are only slightly concave, and mixed with the ashes are stones broken by the action of fire, bones of various kinds—some calcined, arrow-heads, drills, stone and hematite celts, stone pipes, perforated stones called shuttles, and much broken pottery—many pieces being nicely ornamented with lines, etc.



These old fire-places are not confined to the Blue Banks alone, but extend along up the river at intervals, for twenty-eight miles.

At Portsmouth, in digging the sewer on Front and Mill streets, they were found at points about one hundred feet apart, and at a depth of eighteen or twenty feet.

They are also exposed along the high bank, nearly two miles up the Scioto river. Opposite this point, on the west side of the same stream, in excavating for the Ohio canal, the workmen unearthed many of them.

On the Ohio river about two miles below the mouth of the Scioto, there are also a few of them exposed, at a depth of from fifteen to twenty feet. They are generally called "ovens;" this probably arises from the fact that the clay around the basin-shaped beds is burned so hard that the water often washes them out in large pieces, and when a half section of one is exposed it looks like a large clay kettle.

It would seem that not only were these places occupied at different periods, but also by different tribes or nations. The first occupants used stone in the manufacture of their pottery. They were succeeded by others who used shell, who in turn gave way to people using stone. The latter seem to have occupied the ground for only a brief period when they were displaced by those using shell. In the adjoining fields, however, both kinds of pottery are found intermingled.

If the pottery made of stone only occurred on the lower levels it would indicate that the people had gradually advanced in the art. But occurring at different heights it must be conceded that the two kinds were manufactured by different nations.

How long it has taken to deposit the river clay in which these fire-places occur is a problem for geologists to decide. Certain it is that they antedate the residence of the Mound Builders of their neighborhood many centuries, for on the surface above them are to be found the works of this race, in themselves very ancient.

Some writers on the Mound Builders advance, as a reason for maintaining that the mounds are of modern origin, the assertion that the human bones, and even the pottery, contained in them would disappear if they were as ancient as some claim them to be. But the theories of the former are effectually demolished by the evidence found within and around these fire-places. For here are found not only well preserved pottery and fragments of animal bones, but also fish and turtle bones, which have lain there for ages. At least twice during the year, the water rises above the greater portion of them, and must penetrate the bank many feet, and as the bank washes but slowly it would seem that this process alone should destroy them, without taking into consideration the overflows which deposit the clay.

T. H. LEWIS.

Portsmouth, Ohio, March 19, 1886.

THE SUN DANCE AMONG THE BLACKFEET.

Editor Am. Antiquarian.

This is one of the annual ceremonies of great importance among the Blackfoot and Cree nations of the Canadian northwest.

It is a ceremony of such a nature that the successful participation of it, denotes whether the young men shall be "warriors" or not.

The sun dance takes place during the hottest of the summer months, August, and lasts for three or four days. The young men who are willing to become "braves" generally undergo a lengthy fast for some time previous. At the commencement of the ceremonies they repair to the medicine man's lodge. He makes four deep incisions in each aspirant's chest. He makes them in such a manner, two at each side, that a short stick can be passed underneath the flesh intervening between each pair of incisions. After the medicine man gets through with them, they repair to the dance ground, where a stout pole about twenty feet in length has been set upright. This pole is decorated, and has some half a dozen rawhide ropes suspended from the top; the loose ends of which are made fast to the sticks in the young men's chests. The young men then throw their weight on the ropes and start dancing around the pole. They shout and sing all manner of bravado, what they have done and what they will do, till the sticks tear away the flesh, or the dancers fall fainting on the ground; either case frees them, and then they are pronounced "brave," i. e., warriors. If they show the least signs of cowardice in bearing pain or in refusing to take part in the dance, they are told that they are not fit to associate with men, and henceforth rank as "squaw men," and are not allowed to take part in the tribe councils, war parties, etc. Occasionally as a greater display of courage, individuals will have corresponding incisions made on their shoulders and backs, buffalo skulls, guns, saddles, and other weighty objects being suspended from them. The dancers will then run around trailing these after them until the objects are torn off, the greater display of courage being rewarded by more prestige as "braves," and more important privileges being allowed to them in after life.

Continual songs of admiration and encouragement, by the spectators, accompanied by the loud and violent beatings of the "tom-tom," spur on the young aspirants, who, weakened by the previous fast, often fall faint and senseless to the ground; very often they are lifted up and started at it again till the flesh tears loose; then after the ordeal is over they repair to a feast and the attentions of their relations.

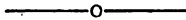
This ordeal is obligatory, and some time or other every young man has to pass through it, the non-participation in which, de-

notes cowardice. Indians in after years will show the scars with manly pride.

How different is this custom, horrible as it is, from the disgusting custom in vogue among a few British Columbian tribes (north coast). The young men of which, wishing to become brave, must devour a live puppy in the presence of witnesses.

G. E. LAIDLAW.

"The Fort," Victoria Road, Ont., July 11, 1885.



YICSACK, OR THE HAT.

Ed. American Antiquarian:

About four miles east from Victoria, British Columbia, close to the landing in Cadbury Bay, stands Yicsack, (the subject of the enclosed sketch,) a rough round block of sand stone, in layers, the upper portion of which projects all around, and looks like a hat, whence the name. This block of sandstone, stands on a glacial boulder, and seen from a distance, the whole may be taken for the image of a little boy with a hat on his head, sitting on a block of stone.

The situation is very beautiful, as the whole neighborhood is a gently sloping, grassy plain, or rather park, inclining to the placid sea, and untouched by the hand of man. Bounding this park on the South and West, rising to a height of forty feet, is an ancient sea margin, in whose steep grassy slopes the erosion of the sea, ages ago, is still plainly shown. Eastward a little from Yicsack, this park is covered by hundreds of rough, moss covered, stone cairns, in each of which are found a few crumbling bones; all that remains of an ancient race of people, who in their day and generation, might have seen the surging waves of the stormy sea, beating against this ancient margin. But to my tale, Yicsack stands as I have said, on a glacial boulder in this beautiful spot, and the hanging branches of the oaks have been trimmed from time to time to give a free passage around it. The Indians in the neighborhood, and the adjoining tribes as well, hand down the tradition that it has been there many, many years, and has always been an object of veneration and awe; and there is little doubt but that it must have been connected with the ancient and prehistoric race, whose cairns laid round the sacred spot long, long years before the advent of the present race of Indians.

Yicsack is supposed, by the present Indians at least, to have control over the weather, and such an attribute being highly prized, he naturally draws the attention of his devotees, especially when bad weather debars the fisherman and hunter from their wonted sports; then, it is, indeed, he is in most request and obtains his rightful honors; dances are performed around him, and he is treated to a coat of fish oil, which is supposed to mollify him greatly.

Yicsack like his worshippers, seems to be unable to resist the

march of civilization, for in 1876 he got knocked off his pedestal by some cattle which were grazing where he stood, and broke in two. Shortly after this misfortune, one of his devotees, an Indian named Joseph happened to pass by, and seeing Yicsack's misfortune, had the two pieces conveyed to his home, where he seems to have lain neglected until circumstances again brought him to the front. In December, 1878, a long spell of rain, sleet and snow, with high winds, prevented his devotees from obtaining their winter's supply of salmon. The bay was full of them and yet they durst not venture out. One day on which the storm blew with greater fury than usual, a number of his devotees met in Joseph's house were discussing the likelihood of the weather clearing up soon. One of them happening to see Yicsack laying outside made this remark: "How," said he, "can we expect good weather, while Yicsack lays out here in the dirt; come, let us carry him out and set him on his ancient boulder, rub him well with fish oil and await the result. Consenting, all of them, they soon had him in thorough working order. That afternoon I remember well, and strange, yet true, the weather set in fine, and continued so for some time. Yicsack is still to the front, but has not been rubbed, that I am aware of, since 1880, owing to his devotees living, during most of the time, at another part of the country. Like the ancient Druids his devotees used to worship under the oaks. And like the ancient Jews and others they set up their idol in a grove. This is the first description of these images, though I hope, as I have promised, soon to send others.

Yours respectfully,
JAMES DEANS.

Victoria, V. I., B. C.

The Museum.

DEVOTED TO THE INTERESTS OF COLLECTORS.
EDITED BY EDWIN A. BARBER.

COLLECTORS AND COLLECTIONS.

Mr. S. L. Frey, of Palatine Bridge, N. Y., who has a very large and valuable collection of relics and antiquities, has found, associated with trinkets of European introduction, on an old Indian village site, some curious objects closely resembling in form and shape a boy's marbles, but made of some vitreous substance lighter in weight than glass. They have no holes or eyes for suspension and are of a dark gray color. For what use were they intended? The same collector has also found, recently, fragments of European clay pipes marked respectively S H, E B and R.

Dr. E. R. Freeman, of Wapakoneta, Ohio, possesses a fine collection of Revolutionary and Indian relics, mainly gathered from Bemus Heights, N. Y., also a calumet which formerly belonged to chief Red Cloud, and some arrows which belonged to Spotted Tail, of Dakota, and many other Indian relics.

In the collection of implements of the northwestern Indians, owned by the Rev. M. Eells, of Skokomish, Wash. Ter., are some interesting war clubs of stone, bone and copper, household utensils of horn, gambling bones, pipes, etc.

Mr. J. R. Kendall, of Terre Haute, Ind., is the owner of a choice collection of aboriginal remains, such as ceremonial crescents, rare ornaments, 90 discoidal stones and about the same number of pipes, a large number of stone tubes, cones, ornamented shell carvings from Tenn., and 24 flint spades, the largest 22 inches long.

The collection of Messrs. Philip and Alfred Sharpless, of West Chester, Pa., to which allusion was made in the March number of this magazine, contains 5,000 arrow and spear points, 100 axes, 10 large steatite basins, 25 pestles, 10 "banner-stones," 20 hammers, 10 stone pipes, 15 spades, about 10 gorgets, etc., not including broken specimens.

Mr. W. W. Adams, of Mapleton, N. Y., has procured, through recent excavations, a large number of *cattinite* beads, pendants and ornaments, many of them of curious and interesting forms. The

material, of course, was brought from the Minnesota quarry before New York State was settled by the whites.

Mr. C. W. McGinnis, of Frankfort, Ohio, possesses a valuable collection of mound relics.

Amongst the pioneer collectors of the far West is *Mr. J. Y. Collins*, of Whatcom, Wash. Ter., who has gathered together an interesting series of local antiquities, consisting of chisels, pestles, mortars and one pipe.

Mr. H. G. Hodge, of York, Ill., is the owner of a valuable collection of relics from the Wabash valley. Pieces of pottery, arrow and spear points, and knives.

Mr E. A. Barber, of Philadelphia, Pa., has just received from Peru a most interesting collection of textile fabrics from ancient Peruvian graves. One specimen, in particular, deserves special mention. It is a genuine *quipu*, a bunch of knotted cords of various colors, used by the Incas for recording events, dates, etc. These objects are extremely rare in collections, especially in the United States.

Ed. Museum:

"FAIRY" PIPES.—When the writer was a boy of sixteen, about the year 1854, being fond of boating and swimming, he, from time to time, found on the banks of the River Severn, at Tewkesbury (England), upwards of forty pipes of various shapes similar to the illustrations on p. 294, Vol. 1, *Jewitt's Ceramic Art of Great Britain* (London, 1878). None had a stem of more than three inches; some were marked on the stem IOHN and others with monograms. All had a *very small bowl*. The river then, and for centuries before, had been the main channel for traffic from Staffordshire to Bristol. Pipes were probably dropped by boatmen and others frequenting the river. It has since been deepened by artificial means and the water level is now four feet higher.

FRED. RATHBONE.

London, England.

NOTES.

At the January meeting of the Numismatic and Antiquarian Society of Philadelphia, Dr. D. G. Brinton made some remarks on the recent theories of the original population of America. He first referred to the opinions of those who claim for the red race an autochthonous development on this continent, and maintained that any such opinions are in direct conflict with the whole system of organic evolution, as none of the higher quadrumana either living or fossil have been found in America. Hence the American man was originally an immigrant from the old world. Four theories of his original arrival have been maintained: 1. By a

land passage from Africa by way of a now sunken Atlantis. 2. By a sea passage through the Polynesian Archipelago. 3. By a land passage from North-Eastern Asia. 4. By a land passage from North-Western Europe. The first two of these the speaker rejected for various reasons. The last two he considered equally probable, and indeed almost capable of demonstration. Immigrants no doubt came in from both directions, and became amalgamated to form a homogeneous race. The date of this early immigration was anterior to the later phenomena of the Glacial Epoch, and possibly even to its commencement.

Mr. Frank H. Cushing, of Zuni fame, has probably paid more attention to the details of aboriginal workmanship than any other archæologist in this country. His experiments in manufacturing imitations of stone implements by aboriginal methods have led to the discovery of certain characteristic marks which always distinguish genuine relics from spurious. This result was only obtained after a long and careful study of the materials used by the ancient workmen, the effects of the tools which had evidently been used, and a practical application of the primitive methods employed by the Indians of to-day.

TWO STONE RELICS OF UNUSUAL FORM.

Ed. American Antiquarian:

The writer has in his cabinet a rare shape of ceremonial weapon made of striped slate and finely polished. It is oblong in form, three and one half inches wide at one end, and one and seven-eighths inches at the other. Its greatest thickness is in the center, where a symmetrical perforation almost half an inch in diameter has been worked through. What might be called the cutting edges are slightly indented. The top and bottom sides are formed into an elongated oval. It was picked up from the surface, one and one half miles north of Hardin, Shelby Co., Ohio. A similar implement with four notched sides, and about the same size is figured by Mr. William H. Holmes on page 456, Annual Report of the Bureau of Ethnology 1881-82.

The other implement "may be described as a flattish cylinder tapering slightly towards the ends which are truncated." I quote because it exactly agrees with the description given by Mr. Holmes a similar relic on page 507, of the same Report.

The object is five and one-half inches long. In one end has been bored a tapering hole five-eighths of an inch in diameter, and at most three and one quarter inches deep. It is made from a tough black, fine grained stone, and it is partly polished. In my relic the groove is wanting. It is singular that the object is also from Indiana, having been found on the surface, six miles west of Portland, Jay county. I am inclined to think that it was used as a whistle to summon, or to imitate the voice of some animal in

hunting. The writer has in his cabinet a number more of rare objects which he will take pleasure in describing as time permits.

A. F. BERLIN.

Allentown, Pa.

INTERESTING RELIC.

Editor American Antiquarian:

At Lucas' Farmers' Fair, which was held in Bowling Green, Warren Co., Ky., last week, a premium was offered for the greatest curiosity. It brought out any number of rusty swords, knives, flint lock muskets (used in the Revolutionary War), coins of the Roman Cæsars, great grandmothers' dresses and caps, etc. The premium was awarded to a bone about three inches in diameter. But this bone had imbedded in it a perfect flint arrow head, which evidently had been sent from some strong bow many, many years, if not centuries ago. It was thought by physicians to be the hip bone of a human being, which was penetrated by the arrow head in its concave surface, the point extending about one and a quarter inches on each side of the bone. Some thought it a shoulder blade, but it looks more like the hip bone. A strange thing about it is the appearance of its having healed around and covered the foreign substance with ossified matter, which is there now. If this is true, the wonderful subject must have carried this terrible missile in the bone for months. Now what healing art had these ancient people that they could save a wounded man under such circumstances, when all the boasted scientific knowledge of this century could not save the lamented Garfield when only a small bullet had passed through a small portion of bone in his body?

This specimen was found in a cave near Bowling Green, from which a human skull, and other human bones have been brought by exploring parties.

J. B. NALL.

Louisville, Ky., Oct. 31.

BRONZE PLATE OF CHARLEMAGNE FOUND NEAR ANN ARBOR.

Ed. American Antiquarian:

A few weeks ago a Hollander, living out of town about four miles, while digging a well near his house came upon an old, cast bronze or brass plate at a depth of about five feet. The plate from all appearances had been cast, it had evidently been buried many years for it has marks of great age. To describe the plate; it was about 14 inches in diameter, with the rim about 2½ inches wide. The rim was raised about half an inch and has the hour glass with

torches at each side, the globe, the square, etc., all represented in it. In the center of the bronze was the head of Charlemagne in profile; the head turned toward the right. Encircling the head was the name "Charlemagn." At the right of the head was his coat of arms with some lettering around it which was too indistinct to be read.

There is no question but that the cast bronze is of an early date. The best theory as to how it came there is, I think, that it was the property of the Jesuit Missionaries who passed through this part of the country as early as 1650. They may have traded it or given it to the Indians. The place where the bronze cast was found was probably an old Indian grave, although no direct evidences of it were discovered.

The plate is now in the possession of a citizen here who thinks it a great find and one worthy of consideration.

F. C. CLARK.

Ann Arbor, Mich.

COINAGE.

Ed. Museum:

Thinking that perhaps a few facts stated very briefly, concerning the introduction of money or coins into the history of the world may be interesting, I have gathered a few such together in the hope that a desire may be stimulated in some of your readers to pursue a subject further, which I can assure them from experience will amply repay any time given to its study.

From a very remote period of the world's history coins or pieces of metal of various sizes and shapes have been used as a circulating means of inter-exchange between persons and communities. We find reference made in the Bible to transactions where purchases of land, corn and other commodities have been made for money; as for instance it is recorded that Abraham purchased of Ephron the field in which was the cave of Machpelah for "400 shekels of silver, current money with the merchant," but note that Abraham weighed to Ephron the silver. And again the sons of Jacob went down into Egypt to buy corn with *money* in their sacks, and here again we find it was weighed, as when they returned from Egypt "every man's money was found in the mouth of his sack, *money in full weight.*" I think we may infer from these instances that the money then in use was not coined money, that is, pieces of metal bearing an impress on them and of a fixed standard and weight; but that it was merely a certain quantity of metal weighed.

Some have asserted that Tubal Cain who is mentioned in Genesis as "an instructor of every artificer in brass and iron" was the first who coined money, but this is purely imaginary and not borne out by any fact. The shekel mentioned by Abraham was simply a weight in use in early times and not a coin, and the word *Kesitah* (Lamb) which is translated money in several places in the old

Testament does not refer to a piece of money, as some have supposed, that bore the figure of a lamb, but rather to a weight in silver, probably of the value of a lamb. From the painted sculptures found on the monuments at Thebes, we find that the Egyptians were acquainted with the use of gold and silver, and that the metals were in common use as a circulating medium. Money as is shown on the sculptures was in the form of rings and passed current by weight and not by tale; public weighers were appointed among the Egyptians, whose business it was to see that the



weights were just; and in illustration of what I have said respecting the word *kesitah* (lamb) you will observe by looking at this illustration, which is copied from the monuments of Thebes, that the weights in use were in the form of oxen and sheep.

Cattle were used by the Greeks as a medium of exchange before coins were introduced, and in a mountainous country such as Greece was, without roads or canals, modes of transit being extremely difficult, cattle were well adapted for currency. Homer does not mention coined money, which it is most probable he would have done if it in his days had been in existence, but alludes to a circulating medium then in use in Greece of a very much more primitive character. He says that an ox was exchanged for a brass bar three feet long, and that a woman who understood several of the useful arts was considered as worth four oxen, (here we have an insight into the value of woman in ancient Greece), and again in speaking of the relative value of armour, Homer says, Glaucus' golden armour was worth one hundred oxen, while Diomed's brazen armour only nine. Hence on some of the earliest known specimens of coined money we have the representation of oxen and sheep stamped on the metal, and the Romans impressed many of their coins with the image of an ox or other animal. The term used by them *pecus* (cattle) is the origin of the latin word

pecunia (money) from which many of our modern monetary terms are derived. Metals are well adapted for a circulating medium, as they are less perishable than most materials, moreover they can be divided into any number of parts and be again united by fusion. Metals can be hammered and rolled into plates and moulded into any shape and occupying as they do less bulk, the other materials are easily transported from place to place.

As I have before mentioned, in early times before metals were coined or fabricated into money, the metal was weighed ; one can easily imagine the great inconvenience and trouble attached to this mode of procedure, and then there ~~was the~~ uncertainty that the silver or other metal was pure, but if a well known authority, and who better than a governing body, were to stamp pieces of metal after satisfying themselves that the metal was of the right standard of purity, and each piece of coin of a fixed weight, then the circulation of money would be much facilitated, as it would pass from hand to hand without doubt or suspicion, and thus we come to the origin of coins, such even as are in circulation at the present day.

From what has been said, it will be easily understood that the coin so issued, of a fixed weight, should in some instances be called after the weight they denoted. For instance we have the early English penny in silver, weighing one pennyweight and so 240 of these pennies weighing one pound of silver, hence the origin of the present name for twenty shillings in value; although owing to the great advance that has taken place in the price of silver, a pound sterling no longer is equivalent to a pound weight (Troy) of silver, yet we retain the name in our (English) monetary transactions.

CHARLES E. FEWSTER,

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London, G. B.

Editorial.

PRIMARY DIVISIONS AND GEOGRAPHICAL DISTRIBUTION OF MANKIND.

Mr. James Dallas, Curator of the Albert Memorial Museum, Exeter, England, has a paper in the Journal of the Anthropological Institute, on the Primary Divisions of the human race which is worthy of notice. His division is three-fold, the same as the one which we have made in a previous number of this Magazine. The division which he makes is as follows: First, the Leucochoi, represented by the European; Second, the Mesochroi represented by the Mongols and American Indians; Third, the Aethicroi represented by the Negroes and Australians.

We propose a few words on this division as related to the American race. The question is whether the American races are all to be classed under the third division, and must be considered as one stock akin to the Mongolian. We shall consider the races in their reverse order, and take up the Aethicroi as first. Under this head Mr. Dallas places the following races; the Berbers, the Nubians, the Negroes or Africans, the Andamans, Fijis, Papuans, and the hills tribe of the Dekkan, the inhabitants of the Phillippian Islands and many of the Oceanic races. The characteristics of these races are as follows. They are all dolichocephalic. The face is prognathic; the eyes dark to black, the skin yellow-brown to black, the hair black and woolly, to wavy and presenting a flattened ellipse in section and the nose is platyrrhine. The territory covered by the race is very wide but it is mainly in the tropical regions. From South Africa to Egypt and from Nubia to India, and the Islands of Oceanica and Australia to the South, the extension is interrupted only by the open ocean; but the Mediterranean, the Black Sea; the Caspian, the table land of Thibet and the great chain of the Himalayas are the boundaries on the north.

In this, the distribution of the Mammals seems to point out the fact that here was a permanent zone. The Catarrhine monkeys, the leopards, civets, ichneumons, jackals, Etc., abound in this region. The typical face of the region is one similar to that presented in the cut with the exception that the hair is generally woolly.

II. The second division, viz. the Mesochroi, are typically known as Mongols. The true Mongol is distinguished from the Negro by the globular or brachycephalic form of the skull. There are,

however, exceptions to this, for the Eskimos and many of the North American Indians are dolichocephalic.

The characteristics of this stock or race are that the face is eurignathic, the eyes dark to black, the skin yellow-brown to olive, the hair coarse, straight and black presenting a section with almost a complete circle and the nose mesorrhine. The distribution of this

race is from the Thibet range, northward through the whole of the central Plateau, extending west as far as Hungary, east as far as the island of Japan; they occupy the coast from Siam to Kamschatka. The Malays differ from the Mongols but Mr. Dallas thinks they belong to the Mecochroi stock. There is considerable similarity between the Indians of America and the Mongols of Asia. Dr. Wilson thinks that to one ethnic centre may be traced the Fin, the Esquimaux, the Chinese, the European Turks, Magyar, and American Indians. Mr. Dallas thinks that the Basques belonged to the Mesochroic group,



Fig. 1.

and quotes M. Broca on the point. Professor Whitney says that there is no other dialect of the old world that so much resembled in structure the American language. In reference to the Zoologi-



Fig. 2.



Fig. 3.

cal zone, the Meschroic group in the Old World is coterminous with the extinct rhinoceros and Mr. Dallas thinks that the distribution to the New World was by the way of the oft-derided Atlantis.

The division extended from the Atlantic coast to the Caspian in the Old World, and from the Atlantic coast westward to the Rocky Mountains and throughout South America, in the New World.

The wolves and foxes are found north of the *Æthochroic* boundary and also occupy the whole of North America. It would almost seem as if in America the variation was so great that a distinct type had been reached and that a third class was really represented by them.

III. The *Leucochroic* group embraces the Caucasian race including the Anglo Saxon and Mediterranean families. The



Fig. 4.

habitat of this group extends from the Caucasus Range, Persia, Georgias, Circassia, Afghanistan, Kashmir and Hindoostan, to Northern India, on the east.

To the west, the same stock overran western Asia, nearly the whole of Europe, and there is some evidence that they also once inhabited the great central Plateau of Asia, extending as far east as the Japanese islands. Some have ascribed the Ainos to this same stock. It is possible that this *Leucochroic* race passed on to the east through Kamschatka and became scattered among the *Mesochroic* race in America, in this way accounting for the diversity of type on this continent.



Fig. 5.

The inquiry which we put forth in this connection is whether the geographical boundaries of these different groups of the human race are such as Mr. Dallas and other Ethnologists have fixed upon. It would sometime seem as if the three fold division extended further than the limits of the Asiatic, European, and African continents and could be traced not only in Polynesia and the islands of the Pacific but could be also recognized on the American continent.

We present here a series of cuts which represent the different casts of countenance or typical features. But they are faces which are found in regions beyond or outside the boundaries which have

been fixed upon as limiting the specific groups. In the first series of faces (Figs. 1, 2 and 3) we find the characteristics which belong to the Leucohroi or white race and yet they are faces which are commonly seen in the interior of the American continent. In the second series (Figs. 4 and 5) we find characteristics of the Aethiochroi, but they are faces which belong to diverse and remote regions, one of them being the face of a Zulu chief and the other a Negro.

In the third series (Figs. 6 and 7) we have the characteristics of the Mesochroic group. These faces re-

semble those of the North American Indians and yet they really are found among the mountains of Thibet, far remote from the habitat of the Indians. The question is whether why such a

diversity among the countenances which are found on the American continent, and such resemblances to those found on the three other continents, Europe, Asia and Africa? Are the lines of migration to be traced across the oceans and the boundaries of all three groups extended into this far off region. The Mongolian face is frequently seen among the North American Indians but the Caucasian features may also be seen and there are not a few faces which even resemble the Negro. If we take into the account the faces and carved portraits which are seen upon the Idols in America, we should conclude

that not one but all three of the groups are here represented. So unlike are these faces as they are transmitted to us by the art of the natives. We throw out the inquiry whether the American races are not to be studied with this point in mind and whether

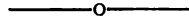


Fig. 6.



Fig. 7.

there are not evidences that the three distinct groups are represented on this continent. The typical face of the Aethiopic group is found both upon the southern points of the African and the American among the Zulus and Patagonians. The typical face of the Mesochiic group may be found in the temperate zones, among the Aborigines of America, and among the native inhabitants of the Thibet mountains. The typical race of the Leucohiic group may be seen in the inhabitants of Europe, among the Caucasian mountains of Asia and on the plateaus of America. All of them having traits and characteristics of the different groups though separated very far from one another. Our conclusion is that climate has much to do with faces and race affinities are uncertain.



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NOTES FROM THE FAR EAST.

BY PROF. JOHN AVERY.

AUTHORITIES ON THE ABORIGINAL TRIBES IN AND AROUND INDIA.—Persons who desire to explore a field somewhat remote from the beaten tracks of scholars are often seriously perplexed at the outset of their inquiries to know what authorities can be consulted, and which are most worthy of confidence. This is true in a special degree when one seeks to study the uncivilized hill-tribes of India and its borders. Information concerning the languages, religions, and social customs of these secluded peoples has been collected mainly by missionaries and officers of the British Civil Service; and is widely scattered in journals of learned societies, records of government, and a variety of other publications. In not a few cases the statements of early observers are out of print, and no longer accessible to the general public in their original form; though their substance may usually be found in the works of later writers.

The following list of authorities, though not pretending to be exhaustive, probably contains all that are important and are still procurable.

GENERAL WORKS.—The subject has never yet been treated as a whole with the thoroughness that it deserves and that is now possible, the survey of individual explorers having been usually limited to small sections of the field; but there are a few works whose range is wide enough to entitle them to a place under this head. First in point of excellence stands Col. Dalton's *Ethnology of Bengal*, pp. 327. Calcutta, 1872, a work of the highest authority but expensive. The wide extent of the Presidency of Bengal brings the greater part of the aboriginal population under survey. The series of full page photographs of typical specimens of the tribes is a valuable feature. Rowney's *Wild Tribes of India*, pp. XV, 224. London, 1882, covers the field, but in the style of a popular sketch. The subject is briefly treated in Lassen's *Indische Alterthumskunde*, Band I. The outline found under the title "India" in the *Encyclopedia Britannica* and in Hunter's *Imperial Gazetteer of India* is reliable, but too general to afford much satisfaction. For the languages of the aboriginal tribes Cust's *Modern Languages of the East Indies*, pp. 198. Lond., 1878, will be found helpful, but only as laying out the field and indicating its principal divisions. One who expects more than a sketch will be disappointed. An excellent paper *On the non-Aryan Languages of India*, by E. L. Brandreth and having the same general character as the preceding, is found in the *Jour. R. A. S.*, Vol. X, Part I. Campbell's *Specimens of the Languages of India* and Hunter's *Comparative Dictionary of the Languages of India and High Asia* are useful in the hands of an experienced scholar, but need revision before they can be recommended to a novice. Works of more limited range will be named under the five following heads.

TRIBES OF THE NORTHERN BORDER.—The best, and almost the only, authority on the tribes in and around Nepal is B. H. Hodgson, whose scholarly researches are summed up in his *Languages, Literature, and Religion of Nepal and Tibet*, Lond. 1874, and *Essays Relating to Indian Subjects*, 2 vols. Lond. 1890. Dr. Hooker in his *Himalayan Journals* has contributed to our knowledge of the Lepchas and neighboring tribes. Dr. Hunter repeats these descriptions in the tenth volume of his *Statistical Account of Bengal*. To Col. Mainwaring we are indebted for a grammar of Lepcha, Calcutta, 1876, and to Prof. Schott of Berlin for a monograph on the same. Mr. John Beames has written on the language of the Magar tribe of Nepal, *Jour. R. A. S.* Vol. IV., and Capt. Forbes has compared the dialects of the Chepang and Kusundah tribes of Nepal with those of the hill tribes of Arakan, do. Vol. IX. Part II. The Gospels of Matthew and John have been translated into Lepcha.

TRIBES OF NORTHEASTERN INDIA.—The political relations of Government with the tribes extending from Bhutan around the circuit of Assam to British Burma may be best studied in Mackenzie's *North-east Frontier of Bengal*, Calcutta, 1884. The tribes along the northern border of Assam are still quite in-

accessible, and Col. Dalton has summed up about all that is known regarding them. The tribes settled in the valley of the Brahmaputra and on the southern border of the province have been more closely observed. An early, but reliable, authority is Robinson, *Assam*, Calcutta, 1841. Later works of a collective character are: *Statistical Account of Assam*, by Dr. Hunter, 2 vols. Lond., 1879; *Volkerstamm am Brahmaputra*, by A. Bastian, Berlin, 1883; *Tribes dwelling between the Brahmaputra and Ningthi Rivers*, by G. H. Damant, Jour. R. A. S. Vol. XII, Part II.; *Our North-east Frontier*, by Col. Raban. Selections from Calcutta Rev. No. 36; *Hill Tribes of the Northern Frontier of Assam*, by C. H. Hesselmeier, Jour. B. A. S. Vol. 37 Part 2, No. 4. Books and papers of more restricted range are; *Specimen of the Zungu Dialect of a Tribe of Nagas*, by Rev E. W. Clark, Jour. R. A. S. Vol. XI Part II., and the *Gospels of Matthew and John and the Life of Joseph in Ao Naga*, by the same; *The Nagas and Neighboring Tribes*, by S. E. Peele, Jour. Anthropol. Inst., Vol. III, and *Platform Dwellings in Assam*, by the same, do, Vol. XI; *Wild Tribes of the Naga Hills*, by Col. Woodthorpe, do, Vol. XI; *Rude Stone Monuments of the Khasi Hills*, by Col. Godwin Austen, do, Vols. I, and V.; *Stone Monuments of the Khasi Hills*, by C. B. Clarke, do, Vol. III; *Language and Ethnology of the Khasis*, by Th. Oldham, being an appendix to his *Geology of the Khasi Hills*, Calcutta, 1854; *Grammatik und Woerterbuch der Khasi-Sprache*, by H. C. von der Gabelentz, pp. 65, 1859; *Grammar and Vocabulary of the Khasi Language*, by Rev. W. Pryse, pp. 192, Calcutta, 1855; *La Langue Khasia*, by A. Hovelacque, pp. 41, Paris, 1880; *Anglo-Khasi Dictionary*, by Rev. H. Roberts, pp. 318, Calcutta, 1878; *The New Testament in Khasia*, Lond., 1871; *Inhabitants of the Garo Hills*, by John Eliot, Asiatic Researches, Vol. III.; *Garo Hill Tribes*, by Col. Godwin-Austen, Jour. Anthropol. Inst., Vol. II.; *Garo Grammar*, by T. J. Keith, pp. 75, Silsagar, 1874; *The Gospels and the Epistles to Galatians, Ephesians, and Philippians in Garo*, 1882-4; *Outline Grammar of Kachari*, by Rev. S. Endle, pp. XXVI, 99, Shillong, 1884. See also annual Administration Reports, published by Government; Naga Hills, 1875-9; Khasi and Jaintia Hills, 1876-9; Garo Hills, 1875-9.

TRIBES OF THE EASTERN BORDER.—Authorities are not so numerous in this as in the last section. First to be named is *Wild Races of South-Eastern India*, by Col. L. H. Lewin, pp. 352, Lond., 1870; the substance of this is repeated in the same writer's *Fly on the Wheel*, Lond., 1885. Dr. Hunter's description of these tribes in his *Statistical Account of Bengal*, vol. VI., is drawn largely from this source. Other writers are: Capt. Forbes, *Languages of Further India*, pp. 192, Lond., 1881; Col. Spearman, *British Burma Gazetteer*, vol. I, pp. 141-193, Rangoon, 1880; Col. Woodthorpe, *The Lushai Expedition of 1871-2*, pp. 339, Lond., 1873; Major McCulloch, *Valley of Manipore and the Hill Tribes*, pp. 75, XLI, Calcutta, 1859; Major G. E. Fryer, *Khyeng People of the Sandoway District*, pp. 44, Cal., 1875; Dr. A. Campbell, *On the Lushais*, Jour. Anthropol. Inst., vol. III; R. F. St. John, *Hill Tribes of North Aracan*, do, vol. II; *Notes on the Languages and Dialects spoken in British Burma*, pp. 20, Rangoon, 1884, collected by various observers.

TRIBES OF CENTRAL INDIA.—We are now in a better-known region. The chief authorities are: Rev. M. A. Sherring, *Hindo Tribes and Castes*, 3 vols.—mostly in the 2d and 3d vols.; Dr. W. W. Hunter, *Orissa*, 2 vols., Lond., 1872, *Annals of Rural Bengal*, Lond., 1872—works in which rhetorical embellishment sometimes impairs strict historical veracity—, *Statistical Account of Bengal*, vols. XIV, XVI, XVII; Sir John Malcom, *Central India*, 2 vols., Lond., 1832; Charles Grant, *Central Provinces Gazetteer*, pp. 582, Nagpur, 1870; *Report of Ethnological Committee of Central Provinces*, pp. 151, Nagpur, 1868; Rev. S. Hislop, *Aboriginal Tribes of the Central Provinces*, pp. XXIV, 214, Nagpur, 1866—very valuable, but fragmentary—; Capt. J. Forsyth, *Highlands of Central India*, Lond., 1872—a work mostly on other subjects; Col. Kincaid, *Wheel Tribes of the Vindhyan Range*, Jour. Anthropol. Inst., vol. 9; *The Kols*, Select. from Cal. Rev. No. 47; A. Nottrott *Grammatik der Kolh-Sprache*, pp. 104, Guetersloh, 1882; *The Four Gospels in Mundari-Kolh*; Rev. L. O. Skreksrud, *Santhali Grammar*, pp. 370, Benares, 1873; *Portions of the Scriptures in Santhali*; Rev. A. Campbell, *The Santhals*, Ind. Evangel. Review, No. 25, and

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TRIBES OF ADJACENT ISLANDS.—By far the most complete description of the wild tribe of Ceylon is in Prof. Virchow's, *Die Weddas von Ceylon*, pp. 153, Berlin, 1881. See also *The Veddas*, by William Goonetilleke, editor of the *Orientalist*, Ceylon, vol. I, Part II., and *The Weddas*, by B. F. Harts-horne, Ind. Ant. Part XCIX. The tribes of the Andamans have been described by: G. E. Dobson, *The Andamans and Andamanese*, Jour. Anthropol. Inst., Vol. 4; E. H. Man, *Aboriginal Inhabitants of the Andaman Islands*, do. Vol. 12, Nos. 1-3 and vol. 14. No. 3.—the best papers yet written—; Prof. Flower, *Osteology of the Andamanese*, do. Vol. 14, No. 2; M. V. Portman, *The Andaman Islands and Andamanese*, Jour. R. A. S. Vol. XIII, Part IV. The population of the Maldives has been very fully treated by H. A. P. Bell in *The Maldives Islands*, pp. 133, Colombo, 1883.

LINGUISTIC NOTES.

BY ALBERT S. GATSCHET, WASHINGTON.

BLACKFOOT TRIBE AND LANGUAGE.—A committee has been appointed in Canada for the purpose of investigating and publishing reports on the physical character, languages and condition of the northwestern tribes. As a member of this committee, Mr. Horatio Hale has made a report upon the Blackfoot tribe, and an abstract of it was printed in the Proceedings of the British Assoc. for the Adv. of Science, Aberdeen meeting, Sept. 1885, (12 pages). The sun dance with its revolting features of self-torture still has its fanatic adherents among the Blackfeet and generally among the tribes along the west side of the Rocky Mountains. Mr. Hale's report is largely based upon the reports of local investigators, as the excellent Father Lacombe, who sent in a sketch upon the pagan deities of the tribe with other information of the most varied description. Blackfoot contains many vocables which are not occurring in the eastern Algonkin dialects, although its affinity with that stock cannot be doubted. These differences and coincidences are shown in tabulated form as regards numerals, pronouns and substantives. Mr. Hale favors the

idea that these words differing from eastern dialects may come from some language of another stock, and that its possessors were perhaps displaced or conquered by the Blackfeet and their language absorbed by them. Before we take to such a hypothesis, we have to know and examine that language more closely. These strange terms may be purely Algonkin; the western dialects, as Cheyenne, Arapaho and Blackfoot, may contain words which are none the less Algonkin, although the corresponding forms may have been wholly obliterated in the Northeastern and Southeastern representatives of the stock.

KWAKIUTL LANGUAGE.—An interesting little publication is the translation of the Gospel of St. John into the Q̄āḡñl language of British Columbia, printed for the British and Foreign Bible Society, London, 1884, 16mo., 101 pages. The anonymous author of it, Rev. Alfred J. Hall, does not indicate which dialect of the extensive Kwakiutl family he introduces; dialects of it are spoken upon the northeastern shore of Vancouver Island and on the mainland as far north as the Kitimat River in 54 Lat. It seems to us that Hall uses the sign of length (or macron) too often, and that he should not employ it to show the accentuation of the words. The passage of St. John, IV, 7, 8, reads as follows: Gakt da zidāk gāyñl lak Samaria tsē lakā wāp:li Jesus nīk yik, nākī masla sun. Kāi disciples ā sīks la l lakā gūqila kīhwāk hīmaūmasā.

Dr. Franz Boas has inserted a brief grammatical sketch of the cognate Bilhoola dialect in "*Science*" of New York, March 5, 1886.

TIMUCUA OF FLORIDA.—During the session of the *Congres des Americanistes* held at Madrid, Spain, in 1881, Mr. Charles Leclerc discovered the long lost grammar of the ancient language of the Floridian Peninsula, composed by the Franciscan missionary, Fr. Pareja. The volume consisted of 80 leaves (160 pages) printed, and of 75 leaves of manuscript in the handwriting of the Padre himself, with some additions by a later author. The title in the printed portion shows that the printing had been done or begun in Mexico in 1614 and that previous to this, another edition had been issued (*compuesto y de nuevo sacado à luz*), of which no other trace is left to us. The lucky finder brought the small-sized volume to Paris and had it copied and prepared for the press. Messrs. Lucien Adam and Julien Vinson undertook the task of editing this precious relic of Floridian antiquity; just now it has left the press of Maisonneuve & Co., Paris, under the title: "*Arte de la Lengua Timucviana compuesto en 1614 por el P. Francisco Pareja, etc.*," Paris, 1885, 8 vo, XXXI and 132 pages. The preface by Prof. J. Vinson contains within the limits of 31 pages, some of the most necessary ethnographic notices upon the tribes speaking Timucua, although a great deal more historic matter has been ascertained concerning those southern populations. Three texts are added to the preface. The grammar itself is an extraordinary jumble of rules, exceptions, paradigms, examples thrown out pell-mell in the greatest disorder; not the editors, but the author Pareja himself, is to be held accountable for this disorder, and it will require heroic efforts from future linguists to disentangle the present chaos and unite into one organic body, with the help of the existing texts of the language, these *disjecta membra*. The enormous complexity of that language was evidently too much for the venerable Padre "to see through it."

AZTEC LANGUAGE.—Mr. Antonio Peñafiel, Director of the department for statistics in Mexico, has a few months ago issued as a government publication, the "*Arte Mexicana*" of the Jesuit father Antonio del Rincon, first published in Mexico, 1595, and dedicated by the author to the bishop of Tlaxcalan. This republication forms a handsome quarto of 94 pages; the preface bears date; "August 1885." This grammar is of special value, not only because it exhibits the forms of the Nahuatl in its earlier stage, as spoken soon after the conquest; but also an account of the Indian parentage of the author, born at Texcuco and the descendant of the ancient rulers of that pueblo. The dialect of Texcuco was considered once to be the most elegant and refined of the Nahuatl family, according to a notice found in a Mexican historian of that epoch. A prolonged study of his native language during ten years enabled our Padre to lay down in writing its rules as embodied in his Grammar. A short vocabulary is appended to the "*Arte*," in which he frequently differs from Molina, the standard lexicographer, in phonetics as well as in definitions:

hereby the value of del Rincon's vocabulary is materially increased, for these variants will lead the more critical students to a deeper study of the language. Mr. Peñafiel places the work edited by him for the importance of its contents upon the same scientific level as the Aztec grammar of A. de Olmos (1547) and that of H. Carochi (1645). § Mr. Peñafiel has also republished the old grammar of the *Turaska* language by Basalénque.

MEXICO.—In the *Chuchona* language of southern Mexico, of which the Tlapanec is a dialect, we have an old catechism by Father Roldan; a new edition of it is now being prepared by Mr. Hyacinthe de Charancey.

COLUMBIAN STATES.—Manuel Uribe Angel has published in Paris, 1885, a volume entitled: *Geografia general y compendio historico del Estado de Antioquia en Columbia*, with 783 pages of text, two maps and 34 plates. Ethnographic notes will be found on pp. 505-524 and three vocabularies of the dialects called Catio-Citaræ spoken in that state. pp. 525-547. In the plates are figured many objects manufactured of gold, stone and other materials.

KÖGGABA is a language belonging to the Colombian states also; it is with several cognate dialects, spoken upon the northeastern border of the United States of Columbia, in the state of Magdalena, near the precipitous heights of the Sierra de Santa Marta. Its existence was scarcely known outside of its neighborhood, before Mr. *Rafael Celedón*, professor in Santa Marta, published a grammar and texts of it, which have just appeared at Maisonneuve & Co., Paris, under the title: *Grammatica de la lengua Köggaba con vocabularios y catecismos*, por el presbítero R. Celodón, Paris, 1896, 8 vo., 34 and 127 pages. Valuable additions to the volume are the ethnographic and geographic introduction, worded in a fluent and attractive style, and the vocabularies of the cognate and vicinal dialects of Guamaka, Chimila and Bintukua, all of the *Carib* or *Gahibi* family and related to Goajira, a language spoken further on to the northeast. About 1200 vocables are making up this Köggaba-Spanish vocabulary.

POLYNESIA.—The dialect of the *Peleo Islands*, of which materials and documents were lately obtained and collected by Mr. Semper, will soon be published in Germany by Dr. Med. Uhle. § From the manuscripts of F. A. von Roepstorff, a British officer of Danish parentage, Prof. G. von der Gabelentz has published a vocabulary from the Niczbarese Islands, which language proves to belong to the Malay-Polynesian family.

LAW CODE OF THE KRETAN GORTYNA.—This is the title of an article of 26 pages contained in the "American Journal of Archaeology," 1885, p. 321-350 by Augustus C. Merriam, of which the sequel is expected in next number. It gives the text of the celebrated inscribed stones, found in July, 1884, by Dr. Halbherr on the site of the ancient Gortyna, which in antiquity passed for being one of the earliest Dorian settlements of Krete and rivaled Lyttos in the fidelity with which it clung to the institutions of its early days. The inscriptions contain paragraphs on the ownership of slaves, on rape and assault, on adultery, divorce, widows' rights, division of property among children, heirs at law and partition of property. If we accept the common Greek belief, that the first code of laws reduced to writing among the Kretans was that of Zaleukos, 660 B. C., we have an upward limit for the inscriptions, which are worded in the most archaic style of ancient Doric. The alphabet is oldest known to us among the Greeks, all letters being of Phœnician origin except Y. In the extremely difficult interpretation of the text the commentators have already made considerable progress.

THE PRINCIPLE of ANALOGY, well known as one of the most powerful agencies of linguistic decay, has been exceedingly prolific in forming what is called irregularity in language; but in many instances it has also given uniformity to certain morphologic forms, which in the later stages of the development of a language frequently appear as *regular* forms. A thorough study of the effects of analogy in a language is possible only where dialects exist and where the language is known to us through its ancient and historic phases. In his "Etude," Victor Henry, professor of philology in Douai, France, discusses

es analogy, as observed in the classic, mediæval and modern Greek (though chiefly in the classic) in three chapters: *a*, Analogy in thematic formations; *b*, in nominal and pronominal inflection; *c*, in the inflection of the verb. Henry, who has dedicated his work to Prof. Michel Bréal, evinces uncommon familiarity with the most approved methods of linguistic inquiry, and in gathering the results gained by the German schools he seems to favor the so-called *Neogrammatists* more than their staid predecessors with their solid erudition. The instances of analogy are exceedingly numerous and many of them strikingly persuasive. In discussing the problem, which belongs to another grammatical order: why the Greek augment is found in the indicative mode only, the author adopts the solution proposed by Wackernagel and Schmidt, that its disappearance is due to the shifting of the word-accent or emphasis from the initial to the next or one of the subsequent syllables, one of these becoming more important for the contents of the sentence than a temporal prefix. The full title of Prof. Henry's highly instructive volume is: Dr. Victor Henry's *Étude sur l'analogie en général et sur les formations analogiques de la langue grecque*; Paris, Maisonneuve & Co., 8 vo, VI and 441 pages. To the students of American languages Henry is favorably known as an investigator of hyperborean languages, especially of the Aleutian and also as the author of a study upon the Quichhua.

THE TRANSLATION OF THE MAHA-BHARATA, published for almost gratuitous circulation by an East India Society, the Datavya Bharat Kuryalaya, has now reached its twentieth number, each number holding about 72 pages in octavo. The motive genius of the undertaking is Protap Chandra Roy, whose wonderful enthusiasm in translating that epic poem of the third century before Christ from Sanscrit into English prose is not deterred by the enormous extent of the original. The *Iliad* and *Odyssey* contain together about 30,000 verses, but the *Maha-Bharata* consists of 220,000 lines spread over eighteen *Parvas* or divisions; and in addition to that there is a supplement, called the *Harivansa*, of 16,374 *shlokas* or distichs (couplets), more in fact than the two great Homeric poems put together. When this prodigious amount of translation is finished, Mr. Protap intends to publish in the same manner the *Ramayana*.

ETHNOGRAPHIC NOTES.

BY ALBERT S. GATSCHE.

PETROFF'S ALASKA.—A summary of all that is important to know about Alaska, a country whose area equals three times that of France, is contained in the recent government publication of the Census Office: *Report on the Population, Industries and Resources of Alaska*; Washington, 1884. Quarto, 189 pages. The author, Ivan Petroff, special Agent of the Census Bureau in these remote parts of our territory, has passed many years of his eventful life in investigating the coasts as well as the unknown interior of the sparsely settled, but interesting country. Although Petroff is a foreigner and descendant of an Imeretian family of the Caucasus, he writes English with great ease and fluency. The volume is richly illustrated with maps and colored pictures representing landscapes and groups of Indians from his own pencil. In the first chapter the progress of the number of population is traced from the earliest Russian censuses or estimates (1818 and 1819) to the census of 1880, which gives a total of 33,426. This total is made up of 430 whites, 1,756 "creoles", 17,617 Eskimos, 2,145 Aleuts, 3,927 Athabaskans, 6,763 Tlinkits and 788 Haidas on Prince Wales Island, commonly called Kaigani. The estimates of Major General Halleck and of Rev. Vincent Collyer of 1868 are shown to be entirely erroneous (pp. 40-41). Special attention is paid to the resources furnishing raw material for industries and commerce, as the seals, fisheries, timber, minerals, agriculture. Follows a typographic sketch of the country (cartography, volcanic regions, eruptions), a treatise upon what is known on its history and the progress of discovery; and the concluding section treats of the Eskimo, Aleuts, Athabaskans (or Tinné) and the Tlinkit as to their ethnologic characteristics: origin, numbers, government, religion and beliefs,

manners and customs, division of time, etc. By studying carefully the writings of his predecessors on Alaska and combining their results, when acceptable, with those of his own researches, Petroff has produced a report which deserves to be placed among the standard works upon that distant country. From the time of its acquisition (1867) until now, Alaska has repaid *only in revenues to the government* nearly two-thirds of the purchase-money of seven millions of dollars, and the profits of commerce and industries have been, of course, immensely in excess of that amount.

STOLL'S GUATEMALA.—The interior of Guatemala and its people are not so well known to the outside world as they deserve to be for their quaintness. The people are so curious, naïve and "natural," that we often have to put the question, "to which degree has civilization succeeded in expelling barbarism, and how far has barbarism encroached upon culture?" A Swiss physician, Dr. Otto Stoll, has sojourned in that country, especially in the western districts, from 1878-1883 and in his recent German book: "Guatemala, Reisen und Schilderungen" Leipzig, F. A. Brockhaus, 1886. 8vo. pp. 512 with tables, maps and many illustrations, tells us in graphic language all that he saw and heard. The late President Barrios and his deleterious influence upon the state is sketched at length and in an unmistakable spirit of indignation, and the reader becomes thoroughly posted up upon Guatemalteco history up to the most remote periods. Special attention is paid to the European element of immigration, among which the Italians, called there "Tyrolese," seem to be conspicuous and well-abused: to the foods and drinks, to the communal government, to the mineral riches, to the culture of cotton and indigo, to the schools and hospitals, etc. Many chapters deal with the Indians, their condition, government, languages, sorcerers and it was mainly to study this element of the population, that Stoll expatriated himself for the lapse of five years. The result of these studies he published in another important book: "Zur Ethnographie der Republik Guatemala", Zürich 1884. 8vo. pp. 180; it forms a true *cyclopædia* of the ethnography and linguistics of the Guatemalan Indians.

TUSCARORA.—The indefatigable investigator of local Pennsylvania and New York state history, Mr. A. L. Guss, in Washington, has just communicated the advance sheets of one of his articles to be inserted in a forthcoming historical description of Juniata and other counties of Pennsylvania. The title is as follows: Early view of the Pennsylvania interior—The *Juniata* and the *Tuscarora Indians*—Explorations of the Indian traders. (pp. 27, large 8 vo.) The article is based entirely on documentary evidence and gives proof of diligent research. The Tuscarora Indians, he states, did not after their defeat in North Carolina come north at once to join the Five Nations; they came in detached fragments for at least fifty-five years, and a part of them, who were sojourning for many years in the Juniata valley, are historically known to us as Juniata Indians.

NOTES ON CLASSIC ARCHÆOLOGY.

POTTERY FROM NAUCRATIS. A selection of pottery from Naucratis has been sent by Mr. Petrie to the British Museum. It includes fragments of vases, ranging through at least 300 years, forming a most valuable commentary on the vases of Rhodes, especially Camirus, and the early art of Ionia. On the oldest, the design is painted on a pale yellow ground, like those found by Mr. Wood in the earliest stratum at Ephesus under the temple of Diana. The specimens with figures and animals in crimson and other colors on a pale ground are very similar to early vases from Camirus and Ialysus, animals and lotus-patterns predominating in the subjects, with occasionally the human figure. An interesting find in connection with these is a large fragment of the shell called *Tridachna squamosa*, on which are incised patterns of an Asiatic origin. This shell is not found in the Mediterranean, but belongs to the Red Sea and Indian Ocean. Specimens similarly ornamented have been found in Assyria, Palestine and Etruria. The discovery at Naucratis adds one.

link to the chain, and the conclusion is natural that they are all importations of the Phœnicians by trade routes of the Red Sea, and thence carried westward as early as 800 B. C. at least.

Next in order of interest are figures in limestone, alabaster, and terra cotta, some recalling Rhodes or Cyprus, others purely Greek, others Græco-Egyptian, again forming an intermediate style such as that already recognized in the vases from Camirus, but in this case distinctly under Egyptian influence. These discoveries clearly point to commercial relations at a very early age with Miletus and other cities on the west coast of Asia Minor and neighboring islands, completely confirming the accounts of Herodotus and other ancient authors, of the establishment of Naucratis under the Saite kings as an emporium and a center of Hellenic trade.

One of the most notable discoveries of this period of great activity in hunting out and disinterring inscriptions, is that made by Drs. Halbherr and Fabricius last summer, on the site of the ancient city of Gortyna, in Crete. It consists of twelve tables of laws, inscribed on the inner wall of an edifice of archaic construction. It is written directly upon the stones of the wall, which are fitted closely together without cement, each table consisting of 53, 54, or 55 lines, written in *boustrophedon* style, (right to left, left to right, in succession,) and exhibits an early form of the alphabet before the introduction of *phi*, *chi*, *eta* and *omega*. It probably belongs to a period as early as Solon, and perhaps to the latter half of the seventh century, B. C. All antiquity looked to Crete as the parent of much that was held from tradition, and especially was that the case with law. Minos to them was not only the helmsman of a great power, but the founder of their system of laws, those rights which he learned by his nine years intimacy with Zeus at Gnosus. Even our severest critics incline to believe that Lycurgus drew largely from Crete in his legislation, rather reestablishing, however, the ancient Dorian discipline, which had been retained with greater fidelity in Crete, than elsewhere. The present code in our inscription deals altogether with matters of private law, transactions in regard to slaves, fines for rape and adultery, rights of the wife who is divorced, the exposure of children if born after divorce, rights of parents over their property and that of children, division of property at death of parent, status of children if born of parents in different conditions of life, the most minute definitions for the marriage and property of heiresses, their guardians and rearing of minors, provision to meet cases where a person dies with his affairs entangled by lawsuits or engagements of certain kinds, the amount of money a son may give to his mother, or a husband to his wife, regulations for the adoption of sons and their succession to the property, and a number of minor provisions, all of which give us a view of ancient Cretan life, and such as even Athens with all of its literature does not hand down to us of her own laws, with the same minutia of detail. The dialect of the inscription is of the hardest Cretan, and one seems to be making his way through a thicket in an outlandish region. New words and new uses of words, as well as new forms, confront the reader at every point, and a studied brevity of expression renders a full comprehension no easy task.

THE Homeric Theory advanced by Prof. Forchhammer is that the Iliad depicts not the clash and grapple of the helmeted warriors, but the winter strife of the elements, especially of the Scamander and Simois; that the burning of Troy represented the total evaporation of the flood in midsummer; and quotes from Homer the adjectives, the "cloud gathering," "returning mist," "flooded plains," "thunderbolt darting Zeus," "Hera, wrapped in a cloud," "Pallas stalking with the Aegis (wave)," &c. The discovery of the skulls of the Trojans and the relics of Troy, does not seem to have shaken this opinion which was formed some fifty years ago.

A LETTER from Aquila, in the Abruzzi, tells us that an Italian Archæological Royal Commission has just visited Sallust's birthplace, the site of the old Sabine town of Amiternum, and has recommended the Government to resume and complete the excavations commenced some years ago. At that time a portion of the theatre and its surroundings were brought to light. It was a semicircular structure with stone seats. Several inscriptions and much ornamental work, with carved pillars, vaults, and a stone staircase, were partially

uncovered. By a singular freak of chance this theatre and the greater part of the old town were covered up by debris and accumulation of soil, while the amphitheatre, which is only a few hundred paces distant from the theatre, remained exposed to confront the effects of time. Its structure remains shattered and weather-beaten, but still imposing. Its elliptical area is now a corn-field, where the harvest is regularly sown and gathered. All around stand the high mountains of the Abruzzi. Not far from Amiternum there is in a deep valley a cyclopean wall, on which a slab was found with the inscription "Feneis Sabinorum," the boundary of the Sabines.—*London Times*, June 5.

LITERARY NOTES.

THE *Mining and Scientific Press* for April 10 has an illustrated article on the legendary lore of the Pueblo Indians. The chart containing the history of the tribe as inscribed upon a sandstone cliff in Northwestern Arizona was faithfully copied by Col. R. T. Robinson. This chart is given in the cut and a key to it is also contained in the paper.

MR. T. H. LEWIS has been exploring mounds in Kentucky and Southern Ohio during the winter. He has collected many interesting and valuable relics, among them the following: 14 hematite skinning knives or celts, the smallest one being less than an inch in length, and the largest about six inches long, a rather unusual size; three hematite plummets, one finely polished; three hematite sinkers; these have a groove around the center; one stone tube, use unknown; one small pipe, and one stone shuttle; four adzes; one stone ax; six stone skinning knives, one so-called badge; one stone chisel and a number of other implements, including a fine spearhead six inches long and nearly two inches wide. The best specimen in the lot is a small copper ax. It is about two and one-half inches in length and over an inch in width. Copper implements are very rarely found in this region.

EMBLEMATIC MOUNDS IN MINNESOTA.—Mr. Lewis also, during the summer of 1885, explored a large number of mounds in Southern Minnesota. He found some of them to be emblematic, among them one representing an arrow or spear head; another represents a pipe, and a third an animal lying on its side. He has also discovered four others which are serpentine in form, or are mounds with serpentine embankments running out from them. Three have round heads and the fourth an oblong one.

THE EGYPTIAN ORIGIN OF OUR ALPHABET, is the subject of a paper read before the New York Academy of Science, December, 1885. The author takes the ground that the science of medicine, the art of making glass, the beginnings of architecture, and the alphabet, are all to be traced to the Egyptians. "The art of painting the articulations of the human voice" is by Sanchoniatho ascribed to Thoth, the Egyptian Mercury, while Tacitus says, "the Egyptians were the first who represented the mind by the figures of animals." * * "That other nations derived their letters from the Egyptians is proved by an inscription of Ramses II., recording the treaty between him and the Hittites. The writing on the Moabite stone is intermediate between the Phœnician and the Egyptian. It is the oldest form of the Semitic.

THE EGYPTIAN EXPLORATION FUND.—Two volumes have been issued by Trubner & Co., entitled, the one *Pithom*, and the other *Tanis*. Many interesting discoveries have been made. Explanations will be continued but there is a demand for more money. Rev. Wm. Winslow, Beacon Street, Boston, is the Vice Pres't of the fund for this country. It is desirable that means should be furnished. The solution of many interesting problems is dependent upon these explorations.

ORIGIN OF THE ZODIAC.—The Egyptian zodiac, says Mr. Boscawen, which had furnished the French astronomer Arago with so much material by which

to prove the Egyptian source of the zodiac, is now known to have only a Ptolemaic age, but earlier than this is the zodiac discovered at Tanis, the ancient Zoan by Mr. Flinders Petrie. The numerous engraved gems and the carved stones, especially the valuable boundary stones, of a far more remote antiquity shows that the signs of the zodiac as known to us were known also to the Chaldeans. It is evident that from an early period the division of the heavens into twelve parts, presided over by twelve constellations, had been in use among the Babylonians.

BIBLIOGRAPHY OF AMERICA.—An enquiry into the bibliography of books dealing with the theories of about the communication with America by Europeans and Asiatics before the time of Columbus, has been opened in the London "Notes and Queries" by Rev. W. T. Lach-Szyrma, of New Tyne. Perhaps some of our readers may be able to contribute facts bearing on this interesting subject.

WHAT IS THE MOTHER CITY OF THE UNITED STATES OF AMERICA.—An interesting inquiry has recently been opened by Rev. W. T. Lach-Szyrma, of New Tyne—both in the Literary Journal "Notes and Queries" of London and in the Western Antiquary, of Plymouth, as to the question which is the chief mother city in Europe of the first European settlers of the United States of America. He is in favor of Plymouth, (as being the city (or town) of Sir Francis Drake, of Sir Walter Raleigh (the founder of Virginia), and to some extent of the Pilgrim Fathers (who called New Plymouth after that port,) but invites discussion as to the possible claims of other European towns, etc. The subject is of interest to Americans, and probably will excite some debate. It will be of interest as a grand tercentenary of the Defeat of the Spanish Armada is being projected at Plymouth for 1888, and probably American citizens will be invited to participate in it, (as of interest to them as well as to Englishmen).

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BOOK REVIEWS.

Four Centuries of Silence, or from Malachi to Christ, by REV. R. A. REDFORD, M. A., L. L. B., Chicago. Jansen, McClurg & Co., 1885.

The connecting links between the Old Testament and the New are brought out by this interesting volume. Xerxes, Alexander the Great, Ptolemy I, Antiochus, Epiphanius, were the heroes of the period. The Septuagint, the Apocrypha, the Targum, and Talmud, and the writings of Philo constitute the literature of the time. The Alexandrian School, the Hellenists, the Pharisees and Sadducees, the Rabbis Gamaliel and Hillel were the instructors. The doctrines that were taught were such as the Jews derived from the Old Testament with an intermixture of Greek philosophy and various traditions, inventions of their own. The external history was as follows: 1st. Babylonians gave place to Persians; 2nd. Persians to Greeks; 3rd. Greeks to Egyptians; 4th. Egyptians to Syrians; and 5th. Syrians to Romans; five distinct dominions. Through all the changes the Jews were dependent and subject to other nations. The coming of Christ was anticipated. The awakening of mind outside of Jerusalem, by the development of Greek philosophy, the intermingling of the nations through worldwide conquests, the introduction of Roman culture the supremacy of the Aryan race over the Semitic stock, "Japhet coming to dwell in the tents of Shem," all prepared the way for the spread of christianity which is as much a European system as an Asiatic. The style of the Scriptures changed because the east of thought changed. The clear and logical style which so resembled that of Plato and his school, took the place of the Oriental imagery. An oratory resembling that of Demosthenes or Cicero, took the place of the old prophetic styles. And so we have the transition. The book brings out these points and is a thoughtful one, carefully prepared, free from speculation, full of the historic spirit without great pretensions to originality or attempting any high

flown style, yet safe and judicious. The author has brought in a vast amount of information. We think our readers will be interested in his work. Christianity a universal religion supplanted Judaism which was mainly an ethnical faith. There was, however, a development and here we see the line of development. The thought which, in the days of Malachi sank beneath the surface is traced like an under-ground stream until it comes out again in Christ. There are steps on which one may walk in the midst of this stream and the book may be regarded as a lamp which points out the steps. It is a very valuable guide and may help us to understand the Gospel, especially as it is connected with the law and the prophets.

Paradise Found, or the Cradle of the Human Race at the North Pole. A study of the pre-historic world, by WILLIAM F. WARREN, S. T. D., L. L. D. Boston, Houghton & Mifflin, 1885.

Columbus announced to his royal patrons his supposed discovery of "the ascent to the gate of the long lost Garden of Eden. This gate in the mind of Columbus, was in America. So Dr. Warren announces to the royal thinkers of this day that he has discovered the garden itself, but the location of that garden is near the north pole. The early map makers identified Paradise with the island of Ceylon and placed Adam's peak in that island. But this new map maker has located the peak among the ice fields. He has transferred all the traditions which have ever clustered about mountains, from the south to the north and then thrown back the story into the pre-historic age when the north pole had the climate of the Torrid Zone. The migration of pre-historic man not from the mountains of Thibet but from imaginary mountains located among the ice fields where DeLong and his crew suffered for so many days. The roots of that mountain have disappeared so that geologists seek for them in vain. "Still the crust of the earth is all the time rising or sinking in a kind of *Æonian* rythm," that of the north has now sunk so that the existence of this mountain is not known. This was originally "the navel of the earth."

A book was written a few years ago by Dr. Thomas Burnett, setting forth the theory that the earth was hollow and at the north pole there were vast cavities from which the Deluge issued and returned. This book is the converse. It is a mountain and not a hole which the learned writer is undertaking to point out. Probably one theory is as true as the other; that of Dr. Burnett being well adapted to his times and that of Dr. Warren adapted to his. As a resume of the different opinions of geologists and ethnologists, the book is valuable. It is a treasure house into which the traditions of all nations have been gathered. An immense number of facts have been brought out by the author though they do not seem to have proved the point which he has taken. We are glad to notice that he has quoted from the pages of the ANTIQUARIAN and has frequently referred to the articles by Rev. O. D. Miller, D. D. These articles have brought before our readers many facts concerning the Gan-Eden, the ancient cosmography, early symbolism, and traditions at the East. Dr. Warren has done a most excellent service in presenting so much information about these primitive traditions and his book will be sought for on this account. The novelty of his theory has enabled him to startle the world with those very things about which others have been studying and writing but were not able to gain a hearing. This is the peculiarity of the work; a lucky hit has been made by the author's art of putting things.

Egypt and Babylon from Sacred and Profane Sources, by GEORGE RAWLINSON, M. A. New York, Charles Scribners Sons, 1885.

Mr. Rawlinson is the author of a whole line of books which cover about the same field; *The Religions of the Ancient World*, *Historical Illustrations of the Old Testament*, *Origin of Nations*, *History of Egypt*, *History of the Five Monarchies*, etc.

This one on Egypt and Babylon is his latest work. It brings the subject of the confirmations of Scripture down to the latest date; the recent discoveries among the monuments having been utilized by the author and the books previously written being supplemented by this. Like all the works of Mr. Rawlinson, it is interesting and for the main part reliable. Our readers will doubtless find it a valuable resume of recent discoveries.

Ancient Egypt in the Light of Modern Discoveries, by PROF. H. S. OSBORNE, I. L. D. Cincinnati, Robt. Clarke & Co., 1883.

Prof. Osborne, who is a great map maker, is also an Egyptologist. His maps of Syria and the Holy Land are well known, but his book on Egypt is not so well known. It is an attempt to make Egyptology popular, or at any rate, to present ancient Egyptian history in a popular form. We should say that a field that has been so thoroughly worked is a difficult one for an American to establish a reputation in. Certainly so if original research is to be looked for. Still as a history the book is interesting, and many would prefer it the more elaborate productions of professed Egyptologists. The publishers have made the volume attractive and illustrated it with somewhat valuable wood cuts.

Studies in Greek Thought; Essays of the late PROF. R. PACKARD, Professor of Greek, in Yale College, Boston. Ginn & Co., 1886.

A critical and careful study of the religion of the Greeks is the characteristic of this book. The different opinions are reviewed, among them Gladstone's, namely, that it was a mixture of heathen worship and foreign notions with reminiscences of heathen superstition and anticipation of Christian doctrine grotesquely intermingled. Prof. Packard makes the Greek religion to consist in nature worship but traces it to the old Aryan faith of the Vedas. This was modified by local myths; each small community, shut in by its surrounding hills developing its own form of worship, and attaching its own epithet to the common name of the God of sky or sea, and perhaps deifying its local hero. In addition to this, the Greeks through an anthropomorphizing tendency, went on and pictured to themselves each God in distinct and beautiful form. Greek art grew out of Mythology. The Greeks made their Gods in their own image. The culmination of the Greek religion was in the monotheism which made Zeus the supreme God. Gladstone makes Apollo the type of Christ and thinks that the idea of the Saviour was embodied in him. Prof. Packard does not hold this opinion and yet he maintains that the worship of Dionysus and Aphrodite, the deification of two degrading sensual passions, was introduced from other nations and adopted by the Greeks. He says in conclusion, that "compared with Christianity in its highest forms, compared even with Buddhism and Mohammedism in some particulars, it appears wavering in its conception of the Divine being, feeble in direct moral influence, and much too tolerant of gross vice."

Lives of Greek Statesmen, by the Rev. Sir GEORGE W. COX, Bart. M. A., New York, Harper & Bros., 1885.

The Greek Statesmen were very similar to American politicians; given to scheming and quite likely to be overthrown by other schemers. This view of the Greek culture is somewhat novel and yet it has been impressed upon us as we have read the interesting sketches prepared by Sir Geo. W. Cox. Two volumes have been issued; the first embracing the period from Solon to Themistocles; the second, from Ephialtes to Hermokrates. The publishers have put these into a very beautiful and attractive shape. Our readers will certainly admire the mechanical execution and will be instructed by the contents of these books.

The Book of Daniel or the Second Volume of Prophecy, by JAMES G. MURPHY, L. L. D., Andover; Warren F. Draper, 1885.

Prophecy is a difficult subject, for so much of history is thrown back into it, that we are at a loss to know whether the language really includes the events or not. Very much as the character of Sesostris with the magnificence of his reign was thrown back upon an earlier hero of the same name, so the character of Christ is thrown into the earliest periods and his figure recognized in the frame work which these utterances have furnished. A better idea of prophecy is that there were types springing up all along the line of history and that the development of character and the progress of religious life resulted in the Christ, society having been organic, and the divine power having in this way worked through it up to holiness. Dr. Murphy has not quite reached this

point for he is still on the old ground and treats prophecy in the old style. It is well, however, that the Messianic idea is kept so prominent by the author, for otherwise there would be danger of ignoring the Christ altogether. The book is useful as it brings the old interpretations into a small compass and presents them in a fresh and forcible manner.

Witness from the Dust, or the Bible Illustrated from the Monuments by Rev. J. N. Fradenburgh, A. M. H. D., Cincinnati, Cranston & Stowe, 1886.

The confirmation of Scripture from the study of the monuments, is the object of this book. The Bible account of the Creation, the Garden of Eden, the flood, the dispersion, Nimrod, the mighty hunter, the immigration of Abraham, Chedorlaemer, of Joseph and his dreams, of Israel in Egypt, of the Exodus of Sennacherib, Nebuchadnezzar and Babylon, is all reviewed, and quotations from ancient authors, inscriptions from the monuments, symbols, and historical allusions are set alongside of these events. As a reference book, in which many original passages may be found, it will save the reader the trouble of going over the literature which is so extensive. Perhaps in this respect it is superior to Rawlinson's works called *Historical Illustrations*. It is, however, somewhat fragmentary and lacks the charm of a connected narrative. The book is attractive in appearance and is finely illustrated and we hope may meet with a ready sale. Rev. Mr. Fradenburgh is one of the best Oriental scholars in this country, and has done himself much credit in the preparation of this work.

Outlines of Universal History, designed as a text book, and for private reading, by GEORGE PARK FISHER, D. D., L. L. D., Professor of Yale College. Iverson, Blakeman, Taylor & Co., New York.

This is a very scholarly work; prepared by one of the best historians of our day; it brings before us the history of the world in a small compass. It is full of information and has this excellence that it is up to the times. It embraces the Archaeological discoveries in the East, the progress of Ethnology, Linguistic studies, and recent investigations in all departments, in the material from which it draws. It touches upon comparative religions, physical and political geography, mythology, the history of philosophy, as well as upon the events which have occurred. The information is condensed but the style is clear. We regard it as one of the best works on Universal History ever published. The mechanical execution is good. The book contains a series of maps 24 in number, which add greatly to its value as they show the changes which have occurred and bring before the eye the political status of the world at different periods.

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THE SERPENT SYMBOL IN AMERICA.

One of the most interesting and suggestive topics for archaeologists to consider is the serpent symbol. The interest is owing to the fact that it prevails so extensively. No symbol is more common in oriental countries and few symbols are more prominent in this country. The study of it, however, is attended with some difficulties. The very fact that it prevails so extensively gives rise to many enquiries. The student is quite likely to be diverted from the careful investigation by the number of enquiries which arise as he progresses with the subject. The problems become so numerous and difficult that he feels almost burdened with the importance of the subject. The fact that so much curiosity is awakened and so many enquirers wait upon him for results, has however a tendency to urge him forward.

The serpent is as conspicuous in prehistoric as in historic times, and the task before us is to explain how and why this was the case. We find the tokens of the serpent a prominent object in primitive art, and the earliest forms of religion, prevailing extensively in native traditions, and as a symbol proving to be widespread. The question is, whether its appearance in historic times, is the result of its prevalence in the prehistoric.

The serpent symbol in America is especially interesting. Here it is free from historic associations, has few of the accumulations of civilized art, is unattended with the customs which have clustered about it in the East. There may be, to be sure, discussions in connection with it, and some may be inclined to trace the symbol to scripture lands and ascribe it to the scripture narrative, yet the fact that it is found in regions so remote makes it uncertain. The value of the study of the symbol in America will be seen from this circumstance. We may be able to solve important problems by the means.

We propose to consider the serpent symbol in America.

I. Its origin. Here there arise a number of enquiries. 1st, The

appearance of the symbol in the East. 2d, The connection between the tradition in the East, and the traditions of the West. 3rd, The correspondence between the tradition and the symbol everywhere. 4th, The mingling of the serpent symbol and the sun symbol. 5th, The enquiry is, whether serpent worship was a widespread cult, or was something which was local. 6th, Did the symbol originate in this country? 7th, Can the serpent symbol in this country be said to be derived from the scripture narrative. This last is perhaps the chief enquiry. It is a well known fact that the symbol prevails in oriental countries, and that the tradition of the serpent is common in the mythology of all lands. The fact that the serpent appears in the traditions of this country makes this enquiry all the more interesting. 8th, The appearance of the serpent amid the ornamentations of the palaces and idol pillars of Central America suggests that the symbol was highly developed, and by following the stages up to this point we might learn why and how the serpent became so prominent in Greek Art. 9th, Still further the connection between the serpent worship and the phallic symbol is a fruitful theme and might engage our attention throughout the whole of this paper. We are controlled, however, by our limitations and must only touch upon a few points and then pass on.

1. Lenormant, the French historian and archæologist, explains the "Serpent in Eden" as follows: He says that the tradition of the serpent, was seized upon by the sacred writer and embodied in the narrative, but the origin of it was in pre-historic times. He maintains that the symbolism of the garden of Eden was derived from the serpent worship which had prevailed, and under this symbolism an actual fact was made known. A new explanation of the fall of man is given. It was a fall from potential holiness, and not from actual holiness. The conscience of the first man was designed to keep him in the true worship, and to teach him about the true God, but disobeying this he fell away into the various systems of nature worship and became ruined by the fall. Serpent worship was a native faith, one of the varieties of nature worship, but it was a very degenerate form of the faith; the serpent itself became at length the embodiment of evil, and the source of degeneracy.

On this point there might be a difference of opinion, and yet if we take the association of the serpent with the phallic symbol, we can easily see how man would degenerate, and this form of religion become the cause of his degeneracy or fall.

Serpent worship in the East is certainly a source of evil, and whatever we may say about its age and origin we must acknowledge that there is a great contrast between it and the worship taught by the scriptures. In reference to the question whether the serpent symbol in America can be traced to the traditions of the East, and whether there is any connection between the scrip-

ture narrative and this symbol a few words are appropriate.

The serpent symbol certainly abounded in the prehistoric period in this country. If it was derived from the scripture it must have been transmitted at a very early date. The symbol of the serpent is here very rude, so rude as to almost convince us that it originated on this soil. It might, to be sure, have undergone a degenerating process in its transmission, and yet the fact that there is so much rudeness to the symbol and so many different types manifested by it, would almost preclude this. The picture given to us by the sacred word, of the serpent and the tree; is attended with the idea of temptation to evil, but the tradition in America has no such moral distinction.

The serpent symbol in America is not like the serpent in the garden. It is not even like the sacred tree of the ancient Assyrians and Babylonians though it has much more in common with that symbol than with any picture of the fall. There are, to be sure, a few relics which by some are claimed to be genuine, which transmit the symbol exactly as it is given in the scriptures. *Mr. Ignatius Donnelly, in his volume called "Atlantis," has given a cut which illustrates this, but the specimen can hardly be called a genuine prehistoric relic. It is more likely to have been left by by some Spanish explorer than by any native.

The tradition and the worship of the serpent in oriental countries might have come from the scriptures, and in a degenerate form may have been transmitted, carrying the symbols with them. This country however is very remote and the tradition can hardly be traced back to the sacred record. It would be easier to explain the scripture account of the serpent as the result of a primitive system such as we find here, than it would to trace the symbol in America to scripture lands and say that it was the degenerate form of this sacred story, symbolized by the natives in their relics. Still the prevalence of the tradition and the symbol may possibly be owing to the vague and shadowy myth which may have been transmitted from the earliest time. The myth would naturally become conformed to the superstitious notions and customs of the natives. The imagery would become American, the very conception would be savage, and the original story would be lost. The contrast between the symbol in the East and the West can at least be thus explained.

2. The correspondence between the traditions of this country and those of Europe and the lands of the East will perhaps be a better point. This correspondence has been explained. Dr. D. G. Brinton thinks that all the stories about the creation, the deluge, the first ancestor, the Culture-Heroes, and even some of the migration legends, can be traced to nature worship. He makes them all to be mere variations of a primitive mythology. Even the heroes which are so well known to history and which have

*See Atlantis, page 445.

appeared conspicuously in literature and poetry, Hiawatha, Montezuma, the "Fair God" of the Toltecs, Quetzacoatl and the Peruvian Viracocha, are but personifications of the powers of nature, with a small amount of actual history as a basis for their celebrity.* On the other hand, Charles Leland maintains that there was a close connection between these traditions and those which have been preserved in the Younger Edda.

Mr. Leland quotes Henry Schoolcraft as holding a contrary opinion, but thinks the traditions of the Wabanaki are exceptional. Mr. Schoolcraft's language is as follows:†

"Where analogies are so general there is a constant liability to mistakes. Of these foreign analogies of myth-lore, the least tangible, it is believed, is that which has been suggested with the Scandinavian mythology. That mythology is of so marked and peculiar a character that it has not been distinctly traced out of the great circle of tribes of the Indo-Germanic family. Odin and his terrific pantheon of war gods and social deities could only exist in the dreary latitudes of storms and fire which produce a Hecla and a Maelstrom. These latitudes have invariably produced nations whose influence has been felt in an elevating power over the world. From such a source the Indian could have derived none of his vague symbolisms and mental idiosyncrasies which have left him as he is found to-day, without a government and without a god." Mr. Leland says:‡

"This is all perfectly true of the myths of Hiawatha-Manobozho. Nothing on earth could be more unlike the Norse legends than the Indian Eddas of the Chippewas and Ottawas. But it was not known to this writer that there already existed in Northeastern America a stupendous mythology, derived from a land of storms and fire, more terrible and wonderful than Iceland; nay, so terrible that Icelanders themselves were appalled by it. Here in deed there existed all the time, a code of mythological legends such as he declared Indians incapable of producing; but strangest of all, this American mythology of the north, which has been the very last to become known to American readers, is literally so like the Edda itself that, as this work fully proves, there is hardly a song in the Norse collection which does not contain an incident found in the Indian poem legends, while in several there are many such coincidences." * *

"It made, in short, a mythology such as would be perfectly congenial to any one who had read and understood the Edda, Beowulf, and the Kalavala, with the wildest and oldest Norse Sagas. The Wabanaki mythology, which was that which gave a fairy, an elf, a naiad, or a hero to every rock and river and ancient hill in New England, is just the one of all others which is least known to the New Englanders."

* See *Myths of the New World*, pp. 34, 49, 58, 81, 111, 117, 123, 177, 183, 193, 195, 209 and 225.

† See: *Algonquin Legends of New England*, Introduction, pp. 1-3.

‡ *Algonquin Legends*, Introduction, pp. 4 and 5.



FIG. 1.—GREAT SERPENT IN ADAMS COUNTY, O.

"It may very naturally be asked by many, how it came to pass that the Indians of Maine and of the farther north have so much of the Edda in their sagas; or, if it was derived through the Eskimo tribes, how these got it from the Norsemen who were professedly Christians. I do not think the time has come for fully answering the first question. There is some great mystery of mythology, as yet unsolved, regarding the origin of the Edda and its relations with the faiths and folk-lore of the older Shamanic beliefs, such as Lapp, Finn, Samoyed, Eskimo, and Tartar. This was the world's first religion; it is found in the so called Accadian-Turanian beginning of Babylon, whence it possibly came from the West. But what we have here to consider is whether the Norsemen did directly influence the Eskimo and Indians."

3. The appearance of the serpent in American tradition is not confined to the northeast coast or to the Algonquin race, but is, in fact, found among all the different tribes. Mr. Schoolcraft has referred to it in his interesting volume called "*Algic Researches*." Dr. Brinton has also spoken of it in his volume, "*Myths of the New World*." Mr. R. M. Dorman in his "*Origin of Primitive Superstitions*," Mr. E. G. Squier in his volume called "*Serpent worship*," Mr. H. H. Bancroft in his "*Native Races*," and many other writers.

Mr. Dorman says: *"*The worship paid to the rattle-snake was universal among all the tribes, but not conferred exclusively upon this serpent. All the snakes enjoyed a share of it though in a less degree. The Winnebagoes revered and never killed the rattle-snake. The Indians of Florida venerated the rattle-snake and would not kill one for fear its spirit would incite its kindred to revenge its death. The Cherokees worshipped the rattle-snake. In Brazil, in a large town of 8,000 cabins, Don Alvarez found a tower which contained a serpent 27 feet long, with a very large head. The Indians worshipped this as a divinity and fed it with human flesh. The Peruvians worshipped adders. Many images of serpents were found in South America before which the inhabitants knelt in adoration.*"

The Iroquois have a tradition about Niagara Falls, that a serpent poisoned the waters, but Heno, the thunderer, who dwelt under the sheet of water, discharged upon him a mighty thunderbolt which slew him. The Senecas still point to a place in the creek where the banks were shelved out in a semi-circular form which was done by the serpent when he turned to escape. His body floated down the stream and lodged upon the verge of the Cataract, stretching nearly across the river. The raging waters, thus dammed up, broke through the rocks behind, and thus the whole verge of the fall upon which the body rested, was precipi-

*Dorman's *Origin of Primitive Superstitions*, pp 265.

tated into the abyss beneath. In this manner was formed the Horseshoe Falls."*

Dr. Brinton says that the serpent seems to be associated in its winding course to rivers. The Kennebec, a stream in Maine, in the Algonquin means "snake," and the Antietam, in Iroquois, has the same signification. There is a tradition that a vast serpent lived in the Mississippi near Fox (Illinois) River, but he finally took a notion to visit the Great Lakes, and the trail he made passing thither, is the basin of that stream.†

It has, by an association of ideas, become connected with the lightning. The Algonquins thought that the lightning was an immense serpent. The Shawnees called thunder, the hissing of the Great Snake, and Tlaloc, the Toltec Thunder god, is always represented with the snake twisted about his body. In the Ojibway mythology the serpent robs the Thunder-bird's nest.

It has also a strange mysterious relation to the spirit land. In one tradition the serpent forms a bridge on which the soul must cross the great stream which separates this world from the spirit world.

"Who is a Manito?" asked the mystic media chant of the Algonquins. "He, who walketh with a serpent, walking on the ground." is the reply, "He is a Manito."‡

The cloud serpent, Mixcoatl, the white or gleaming cloud serpent, is said to have been the only divinity of the ancient Chimeces.§

It is said of Quetzacoatl, the great Mexican divinity, when he departed from the land, that he entered his wizard skiff made of serpent skins and embarked upon the sea, after bestowing his blessing upon the young men who accompanied him.||

In some localities the serpent seemed to be considered as the embodiment of evil. The Apaches hold that every serpent contains the soul of a bad man.¶

The Piutes of Nevada have a demon deity in the form of a serpent, still supposed to exist in the waters of Pyramid Lake and this Devil Snake causes the water to boil like a pot, in time of a storm.¹

It was described to Whipple and to Mollhausen as possessing power over the sea, lakes, rivers and rain. It was, among the Pueblo cities of the Pecos, supposed to be sacred and according to some accounts was fed with the flesh of his devotees.²

*The Iroquois, or the Bright Side of Indian Character," by Minnie Myrtle, p. 133.

†Dorman's Primitive Superstitions, p. 315, quoted from Schoolcraft, p. 682.

‡Tanner's Narrative, p. 356. Brinton's Myths, p. 114.

§Brinton's Myths, p. 171.

¶Dorman's Prim. Sup.—p. 94.—Short,—259.—Prescott—Vol. I—58.

¹Bancroft's Native Races, Vol. III, p. 135.—Schoolcraft's Archives, Vol. V, p. 203.

²Bancroft's.—Vol. III—p. 135.—Sm. Rep.

³Gregg's Commerce with the Prairie, Vol. I—p. 271.

⁴Whipple, Ewbank and Turner's Report, p. 38.

⁵Pacific R. R. Report, Vol. III.

These traditions prove nothing as to the origin of the symbol and yet they show how prominent the serpent was in native American mythology. Perhaps the most interesting tradition of the serpent is one which has been preserved in the celebrated Red Score Record of the Delawares or Lenni Lenapes, called the Walum Olum. Of this, a new translation has been made by Dr. D. G. Brinton and we take pleasure in quoting from his book. The reader will notice the correspondence between this tradition and the scripture record, but will see that it has been adapted to the new circumstances, the memory of the people not going back further than the migration. The following is the general synopsis:

I. The formation of the universe by the Great Manito, is described. In the primal fog and watery waste, he formed land and sky and the heavens cleared. He then created men and animals. These lived in peace and joy until a certain evil manito came and sowed discord and misery."

II. "The Evil Manito, who now appears under the guise of a gigantic serpent, determines to destroy the the human race, and for that purpose brings upon them a flood of water. Many perish, but a certain number escape to the turtle, that is, solid land, and are there protected by Nanabush (Manibozho or Michabo.) They pray to him for assistance, and he caused the water to disappear, and the serpent to depart."

III. "The waters having disappeared, the home of the tribe is described as in a cold and northern clime. This they concluded to leave in search of warmer lands. Having divided their people into a warrior and a peaceful class, they journeyed southward, toward what is called the 'Snake land.'"

IV. "The first sixteen verses record the gradual conquest of most of the snake land. It seems to have required the successive efforts of six or seven head chiefs, one after another, to bring this about, probably but a small portion at a time yielding to the attacks of these enemies. Its position is described as being to the southwest, and in the interior of the country. Here they first learned to cultivate maize.

V. "Having conquered the Talegas, the Lenape possessed their land and that of the Snake people and for a certain time enjoyed peace and abundance. Then occurred a division of their people, some as Nanticokes and Shawnees, going to the south, others to the west, and later, the majority toward the east, arriving finally at the Salt sea, the Atlantic ocean."*

We call attention to this record of the Delawares, for it connects the archæology of this country with the traditionary lore of Europe and Central Asia. The record is evidently genuine and has no more signs of being modified to suit missionary influence than all the traditions. There is a very remarkable cor-

*The Lenape and their Legends, by Dr. D. G. Brinton, pp. 167-68.

respondence between the tradition as thus recorded and some of the symbolic structures which have been found in the eastern portion of the Ohio Valley. The Red Score shows that it is possible to convey thought by symbols, and we are not sure but that this was the object with some of the symbolic earth-works.

4. We have maintained that the serpent symbol was very prevalent among the mounds of Ohio; so prevalent as to give rise to the idea that the totem or ruling divinity of the people was the

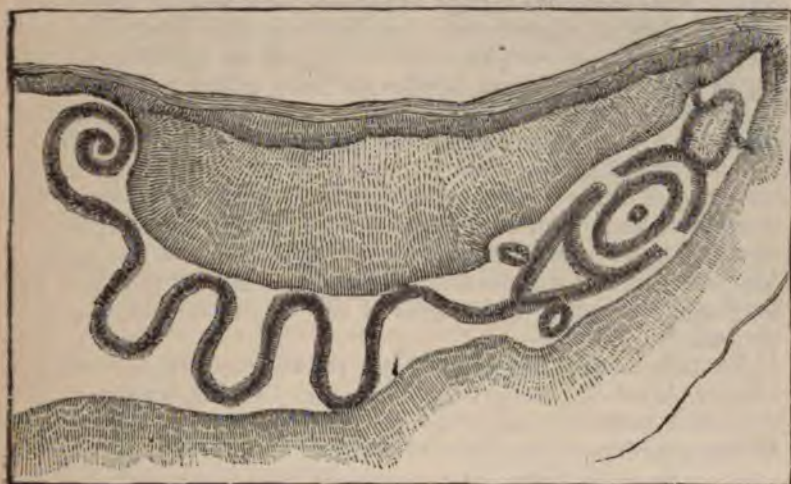


Fig. 2.—GREAT SERPENT IN ADAMS COUNTY.

serpent. We do not say that the whole region was occupied by this people, for there are other districts where the alligator or lizard seems to be the totem; but the place where the great serpent may be seen and where the serpent symbol prevails; is a district which is situated south of that in which the alligator appears and which extends along the Ohio River on both sides from Adams to Scioto county, or from the mouth of the Little Miami to that of the Scioto River. Corresponding to this district is another where the Mound Builders erected their most notable works. This is situated a little farther to the east in the vicinity of Marietta. We ask the question whether this was not the habitat of the two races spoken of in the Walum Olum, the "Snake" race and the Telegewhi.

We take it as very suggestive that the tradition of the Lenni Lenapes so correspond with the archæology and especially that of the eastern portion of the Ohio Valley. Here were situated, according to all accounts, the far famed race called the Telleghe-wi or Alleghewi. The Mound Builders of Ohio have been identified with this traditionary people; identified not only by the missionaries such as Heckwelder, Zeisberger, and others, but by archæologists. Here were situated, according to the interpretation

which we ourselves have given to the earth works of Ohio, the celebrated "Snake tribe or nation" which is spoken of in this tradition.

On this point we quote Mr. Horatio Hale, who says: * "Every known fact favors the view that during a period which may be roughly estimated between 1,000 and 2,000 years ago, the Ohio valley was occupied by an industrious population of some Indian stock which had attained a grade of civilization similar to that now held by the Village Indians of New Mexico and Arizona; that their population was assailed from the North by less civilized and more warlike tribes of Algonkins and Hurons acting in a temporary league similar to those alliances which Pontiac and Tecumseh afterwards rallied against the white colonist; that after a long and wasting war the assailants were victorious; the conquered people were in great part exterminated; the survivors were either incorporated with the conquering tribes or fled southward and found a refuge among the nations which possessed the region lying between the Ohio Valley and the Gulf of Mexico; and that this mixture of races has largely modified the language, character and usages of the Cherokee and Choctaw nations."*

Dr. Brinton also has pointed out the fact that the tribes of the Chahta, Muskoki, comprising the Creeks, Chickasaws and Choctaws were mound builders in recent times, but he thinks that the Mound Builders of the Ohio were in part their progenitors. The remarkable work of the Tuscarora chief Cusick is evidence also. He describes the conflicts which were carried on between the northern confederacy and the southern emperor who dwelt at the "Golden City," but who also built forts throughout his dominions and almost penetrated to lake Erie. "Long bloody wars ensued, which probably lasted about 100 years. The people of the north were too skillful in the use of bows and arrows, and could endure hardships which proved fatal to a foreign people. At last the northern people gained the conquest and all the towns and forts were totally destroyed and left a heap of ruins;"† According to Heckewelder, "hundreds of the slain Tallegewi were buried under mounds near the Great River." Mr. Hale says "there could be no reasonable doubt that the Allighewi, or Tellegewi who have given their name to the Alleghany river and mountains, were the Mound Builders." He says "the Dakota stock had its oldest branch east of the Alleghanies;" he thinks that the migration of the tribe was from the Northeast. Prof. W. A. Williamson, the son of the missionary among the Dakotas, says that they have a tradition that their ancestors came from the Northeast, and that they formerly dwelt on the Ohio River, and built the mounds in that vicinity. It is supposed by some that

*See Amer. Antq. Vol. V, No. 2, p. 120.

†Amer. Antiq., Vol. I, No. 2, p. 116.)

the Dakotas and the Cherokees were different branches of the same race. We speak of these traditions for they seem to confirm the point which we have made, that the mounds on the Ohio River were built by this people, which were called the "Snakes."

5. We now turn to the archæological evidence. There are mounds on the Ohio River which are in the shape of serpents. The great Serpent Mound in Adams Co. is well known. It needs no description. The discussion has, to be sure, been going on lately, whether this mound is really a serpent or not. According to the survey of Squier & Davis, there is no doubt as to the serpent effigy. Fig. 1. Those authors also thought they recognized in the effigy, the ancient tradition of the serpent and the egg which is so prominent in the cosmogony of the *Hindoos. Rev. J. P. McLean, however, has explored the region and makes out a different figure, the figure of a serpent and a frog; and thinks that the old interpretation cannot be maintained. Fig. 2. There is this to be said however, about the effigy, that its very size and prominence on the summit of the hill, convey the idea that it was a very important symbol, and quite likely to have represented the chief totem or divinity of the tribe dwelling in the region. From it we judge that the name of the tribe would be the "Snake Indians."

Mr. W. H. Holmes thinks that it was a serpent symbol, but suggests that the circle with the altar in the center of it symbolized the heart of the serpent.

There is a circle or earth work near Chillicothe which is in the shape of a serpent. In this case the serpent is not a mere effigy resting upon the summit of a hill, (Fig. 3.) as in Adams county, but the wall to the enclosure, or rather two serpents, the heads forming the gateway. This is a very remarkable work. The situation is in the midst of an extensive series of earth works. on Paint Creek, where were many village enclosures and other signs of habitation. This work is



Fig. 3. SERPENT EFFIGY, CHILICOTHE. described by Squier & Davis as follows: "The body of the work is elliptical in shape, the diameter being 170 ft., transverse 250 feet. There is a single opening or gateway 50 feet wide on the south, where the walls curve outwards and lap back upon themselves for the space of 60 ft. The most remarkable feature of this singular work consists of the five walls starting within 10 ft. of the enclos-

ure and extending northward slightly converging, for the distance of 100 ft. See Fig. 3. These walls are 20 ft. broad at the ends nearest the enclosure and 10 ft. apart. They diminish gradually as they recede to 10 feet at their outer extremities. The purposes of this strange work are entirely inexplicable. The small size precludes the idea of a defensive origin. It is the only structure of the kind which has been found in the valleys and is totally unlike those found on the hills. The Great Stone Fort on Paint Creek is but two miles distant and overlooks this work.*

Our explanation of this structure is that it represents two serpents with the bodies joined, but with the heads turned back in such a way as to make the opening or gateway to the enclosure between them. The long stone walls which seem to Squier & Da-

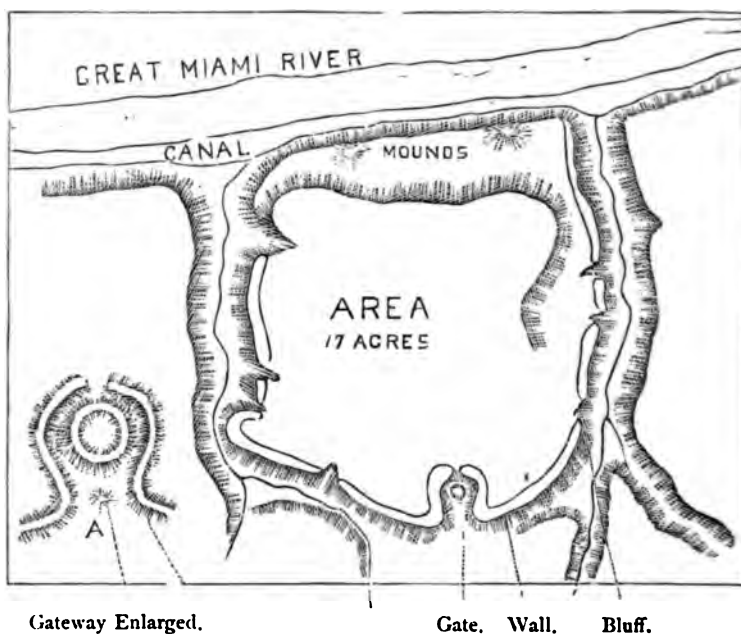


Fig. 4.—WORKS ON THE MIAMI RIVER, OHIO.

vi sso remarkable, represent the tails of these serpents very much as the idols of Mexico contain the tails of serpents below the figures. The protection given to this enclosure would be partly owing to the serpent effigy and the sacred character of the place would also be exhibited by it. An enclosure similar to this but on a larger scale may be found on the banks of the Great Miami river, four miles above the town of Hamilton. Here the serpent symbol is contained in the entrance to the enclosure but there

*Anc. Mon. p. 4, pl. III.

is no such completed line of earth works and no structures that correspond to the rattles. Squier & Davis' description of this is as follows: "The ends of the wall curve inwardly as they approach each other upon a radius of 75 ft., forming a true circle. Within the space thus formed is another circle 100 ft. in diameter which seems to protect the gateway. Outside of this circle and overlooking the bluff is a mound 40 ft. in diameter and 5 ft. high. The passage between the circle and the embankment is only about 6 ft." Fig. 4.

Another enclosure resembling this has been described by Squier & Davis. It is in Butler County. The peculiarity of the

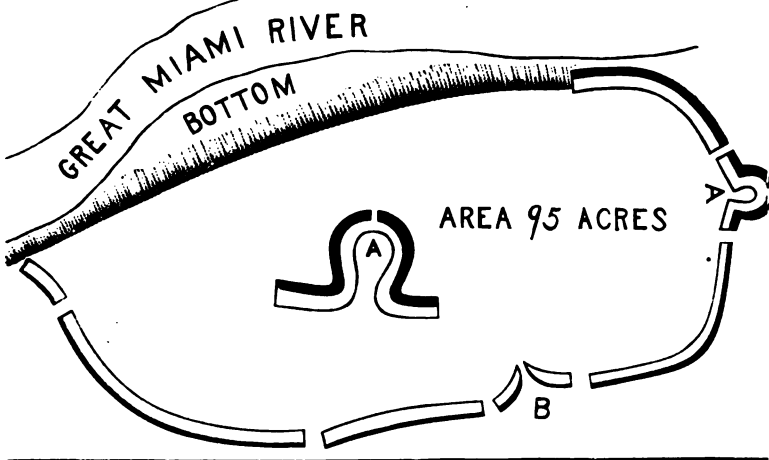


Fig. 5.—WORK IN COLERAIN, OHIO.

work is that every avenue is strongly guarded and the entrances resemble the gateway just described. The ends of the walls overlap each other in the form of semi-circles having a common centre. The coincidence between the guarded entrances of this and similar works throughout the west, and those of the Mexican entrances, is singularly striking.*

Still another work which has the symbol of the serpent as a guard to the entrance way is found near Colerain, Hamilton Co., Ohio, on the bank of the great Miami.† Fig. 5.

In this case the tails of the serpent guard the entrance way rather than the heads; although there is another gateway where the peculiar circular entrance is seen, but it is closed up and the gateway where the tails are seen is the principal entrance.

Fort Ancient is another work where the serpent symbol may

*Ac. Mon., Squier & Davis, p. 21, pl. VIII, No. 1.

†Anc. Mon., p. 35, pl. XIII, No. 2. Anc. Mon. p. 18.

be seen. (Fig. 6.) The walls of this enclosure are singularly tortuous and resemble massive serpent's winding along the edge of the bluffs. The place where the serpent symbol is most manifest is where the large mounds guard the entrance to the lower enclosure at the neck of land which joins the two enclosures. Here the wall is not only tortuous but rises and falls very much as if two massive serpents were rolling their bodies along. There is also in the larger enclosure a singular earth work which has the form of a crescent. From its position inside of the enclosure we should say that it was designed as a moon symbol, yet it may have been built in that form merely as a matter of defense. We do not state positively that the serpent symbol is contained in the Ft. Ancient, for it may be that the tortuous shape of the walls was owing merely to the nature of the ground, as the bluff is exceedingly broken. The walls, in following the summit of the bluffs would naturally be serpentine. And yet if the serpent symbol is found in other earth works we should conclude that it was contained in this, for the resemblance is very striking, when one conceives the idea, and looks at the wall with this point in mind.

Another place where the serpent symbol is supposed to be contained in an earth work, is at Portsmouth. Here we have an extensive series of works consisting of walled enclosures, parallel or covered ways, curved lines, horseshoe symbols, mounds enclosed in circles, and a remarkable symbolic structure which might be considered as representing the symbol of the sun and the four quarters of the sky, or the four winds, and along with the other structures, the serpent symbol. This is one of the most remarkable series of works found in the world. It is composed of three groups; one on the Kentucky side of the Ohio River, opposite the mouth of the Scioto, about two miles below the city of Portsmouth; another which occupies the ground on the north side of the Ohio to the east of the Scioto; it runs up and across the two terraces and has its main works on the third terrace overlooking the city below. The third group is on the Kentucky shore but several miles further up the river than the first group. The total length of the parallels now traceable may be estimated at 8 miles, giving 16 miles of embankment to the parallels alone, and computing the walls around the enclosures and the circles which surround the horseshoe symbols with the circles which surround the sun symbol, we have a grand total of upwards of 20 miles of earth walls. The city of Portsmouth is now built upon the ground where the largest group formerly existed. But the walls were fortunately visited and described before they were destroyed. Squier & Davis say, "the avenues, or covered ways extending from one group to the other, have induced many to assign them a military origin, built with a design to protect communication between the different works or enclosures; but it is very certain that we must seek for some other ex-

planation of their purposes. There is no doubt in our mind **that** the covered ways were designed to protect communication **between** the different groups, but we agree with the authors of

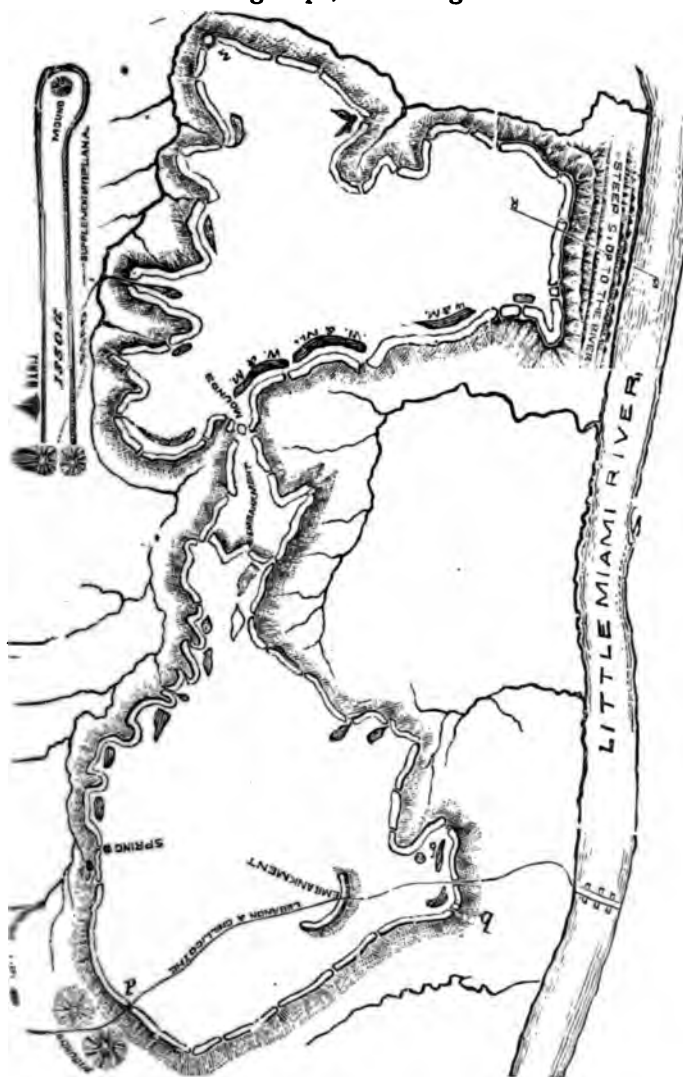


Fig. 6.--"FORT ANCIENT."

"Ancient Monuments," in the opinion that the inclosures were designed for a religious and not a military purpose.

The symbolism contained in them would prove this if nothing else. It is a singular fact that this entire series of works has a resemblance to the great circle at Avebury, England. There is the same prevalence of the horseshoe symbol, and of circular enclosures,

the different works being connected here by earth walls as there by standing stones. Dr. Stukeley considered the works at Avebury to be Druidical and supposed that they altogether, when entire, represented the Deity by a serpent and circle. The former symbolized by the two avenues which led to Kennet on the one hand and to Beckhampton on the other, Overton Temple being the head of the serpent; the sanctuary or circle with its attendant symbols being found in the vallum and standing stones or double circle of stones upon Silbury Hill. The two wings of Avebury are formed of two temples enclosed within the great circular temples. Dr. Stukeley thinks also that Stone-Henge in England was a symbolic structure. The avenues to Stone-Henge were first observed by Mr. Aubrey. Dr. Stukeley found that one branch had extended more than 1700 ft. down to the bottom of the valley; the other branch points to the northwest and extends 10,000 feet or two miles.

Mr. Maurice mentions two temples on the island of the Orkneys which by ancient tradition were dedicated to the sun; and another at Biscaw-woon in Cornwall which represents a circle with wings. These may be imaginary interpretations of the works at Stone-Henge and at Avebury, but if the globe, wings and serpent have been recognized there we should say that they could be with much more reason identified in the works at Portsmouth. We do not say that these works were Druidical, or that the Druidical symbols were found there, and yet the fact is that the horseshoe symbol has been recognized here, and we see no reason why the sun symbol may not have been symbolized in the circle on the Kentucky side. In reference to the works at Portsmouth, Squier & Davis say: "The two crescent or horseshoe shaped walls constitute the first striking feature which presents itself in the works at Portsmouth. They are both about the same size and shape, measuring 80 ft. in length by 10 in breadth. Inclosing these in part is a circular wall. There are several small circles connected. No one after examining its details would ascribe a military origin to the group. The most reasonable conjecture respecting it is that it was in some way connected with the superstitions of the builders. In what manner, of course, is impossible to determine. The group on the Kentucky side is in many respects novel. It consists of four concentric circles placed at irregular intervals in respect to each other, and cut at right angles by four broad avenues, which conform in bearing to the cardinal points. A large mound placed in the center; it is truncated and terraced, and has a graded way leading to its summit. On the supposition that this work was in some way connected with the religious rites and ceremonies of the builders, this mound must have afforded a most conspicuous place for their observance and celebration. And it is easy while standing on its summit, to per-

ple it with the strange priesthood of ancient superstition, and fill its avenues and line its walls with the thronging devotees of a mysterious worship. Whatever may have been the divinity of their worship, order symmetry and design were among his attributes; if, as appears most likely, the works that most strongly exhibit these features were dedicated to religious purposes, and were symbolical in their design."²

III. We turn now to the relics, as evidence that the serpent symbol prevailed in America and there was a correspondence between it and tradition. One tradition to which we would refer is found in Schoolcraft's *Algic Researches*³ and repeated in the "Hiawatha Legends."

"Manabozho's grandson had, contrary to advice, ventured upon the ice of a lake in the spring time. He had not got half way across when the ice gave way and he fell in and was immediately seized by the serpents who knew it was Manabozho's grandson and were thirsting for revenge upon him. Manabozho sets out in search of his grandson. He finds the king-fisher bird and inquires of him about the serpents and their habits. "Do you see that beautiful white sandy beach"? said the bird, "Yes", he answered. "It is there, continued the king-fisher, that they bask in the sun. Before they come out the lake will appear perfectly calm; not a ripple will appear. After mid-day (na-wi-quā) you will see them."⁴

"He went to the sandy beach indicated and transformed himself into an oak stump. He had not been there long before he saw the lake perfectly calm. Soon hundreds of monstrous serpents came crawling on the beach. One of the number was beautifully white. He was the prince. The others were red and yellow. The prince spoke to those about him as follows: "I never saw that black stump standing there before. It may be Manabozho. There is no knowing but he may be somewhere about here. He has the power of an evil genius and we should be on our guard against his wiles." One of the large serpents immediately went and twisted himself around it to the top and pressed it very hard. The greatest pressure happened to be around his throat; he was just ready to cry out when the serpent let go. Eight of them went in succession and did the like, but always let go at the moment he was ready to cry out. "It cannot be him," they said. "He is too great a weak heart for that." They then coiled themselves in a circle around their prince. It was a long time before they all fell asleep. When they did so Manabozho took his bow and arrows, and cautiously stepping over the serpents until he came to the prince, drew up his arrow and shot him in the left side. He then gave a saw-saw-quan, (the war-cry) and ran off at full speed. The sound

²Anc. Mon. Squier and Davis, pp. 81-82.

³Hiawatha Legends, p. 37.

uttered by the snakes on seeing their prince mortally wounded, was horrible. They cried, "Manabozho has killed our prince; go in chase of him."

It is very remarkable that this Algonquin story about Manabozho and his adventure with the serpent tribe should be found perpetuated in the relics, but there are Mound Builders' pipes which seem to embody it.

It is noticeable, that a pipe has been found which has the figure of a serpent carved around the bowl, exactly as the serpent in the tradition was coiled around the stump. Fig. 7. What is



Fig. 7.—SERPENT PIPE FROM OHIO.

more, this pipe strangely resembles very strongly the Phœnician symbol which perpetuates the tradition of the serpent and the tree. It may be a mere coincidence, and yet it is worthy of thought, because there are so many symbols among the mounds which seem to have been founded on tradition exactly as the serpent symbol in the east is based upon the tradition of the serpent and the tree. We do not connect the two nor claim that this serpent symbol in America is to be traced to the eastern tradition about the serpent and yet the resemblances are quite marked. We do not say that this pipe is an actual embodiment of the tradition but it is at least suggestive of it. There are many relics which represent the serpent in some form, either as ornaments inscribed upon the surface or as carved into the relic itself.

It is a singular circumstance that the earth works in Ohio frequently represent the serpent in their shapes and at the same time contain relics on which are carved figures of the same reptile. The rattlesnake seems to be the symbol which is the most common. The pipe which we have just described was taken from a mound in southern Ohio. There are also other specimens which contain the serpent symbol. Squier & Davis have described a tablet on which a snake is carved very delicately Fig. 8. They state that several tablets were taken from a mound in an enclosure called Clark's Work on Paint Creek. They speak of the find as an important one. One of the tablets was enveloped in sheets of copper but others were painted with different colors. This one represents the snake as coiled up so

as to make three folds the rattles turning up at one end and the head at the other, the whole specimen being about $6\frac{1}{4}$ inches long and $1\frac{3}{8}$ inches broad. They say "it does not appear probable that these relics were designed for ornaments; on the contrary, the circumstances under which they were discovered render it likely that they had a superstitious origin and

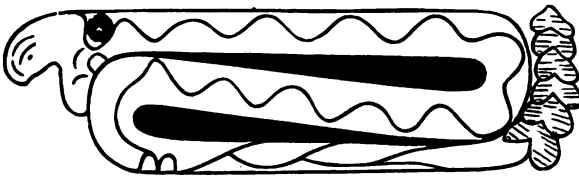


Fig. 8.—TABLET FROM PAINT CREEK.

were objects of high regard and perhaps of worship. The serpent entered widely into the superstitions of the American nations and was conspicuous among their symbols. Wherever it appears, whether among the carvings of the Natchez, who according to Charlevoix, placed it upon their altars as an object of worship, among the paintings of the Aztecs, or upon the temples of Central America, it is invariably the rattlesnake. The featherheaded rattlesnake was in Mexico, the peculiar symbol of Tezcatlipoca, otherwise symbolized as the sun. This also goes to confirm the position previously taken, that the Mound Builders of Ohio were serpent worshipers.

There is a relic which was found on the banks of Paint Creek, on which the face of a Mound Builder is carved and around the neck a large serpent is folded, the head and tail resting together upon the breast of the figure. The head is surmounted by a knot resembling the scalp lock of the Indians but the face has markings upon it as if to imitate the painting or tattoo common with the natives. This relic is a pipe and yet it has a close relationship to certain stone idols which are common in this region. Thus we have the symbol of the race and possibly the portrait of the same people combined in one carved figure or idol.

IV. We call attention to the extent and variety of this symbol. It is found not only among the mounds but in many other localities. It is found in combination with other figures. Some times the bird and serpent are combined in the same relic. An excellent illustration of this is contained in the following figure. See Fig. 9. The pipe has been described by Mr. E. A. Barber, as follows: "It is a large trumpet-shaped stone pipe found in the vicinity of Santa Fe, New Mexico, and is at present in the collection of Mr. Wm. S. Beebe, of Brooklyn, N. Y. It is believed to be amongst the finest American pipes extant. The bowl is carved to represent an eagle's head, on the back and

sides of which, Lilliputian figures of men appear in relief, while along the stem, four rattlesnakes are stretched in lifelike attitudes."*

We here quote from Mr. W. H. Holmes, of the Ethnographical Bureau who has made a special study of the shell orname



Fig. 9.—STONE PIPE FROM NEW MEXICO.

and has described those which have the serpent effigy upon the bowl. He says:

"The serpent has had a fascination for primitive man hardly surpassed by its reputed power over the animals on which it preys. In the minds of nearly all savages it has been associated with the deepest mysteries and the most potent powers of nature."

*See "The Continent," April 4, 1883, pp. 419 and 421.



Fig. 10.—SHELL GORGETS FROM TENNESSEE.

other creature has figured so prominently in the religious systems of the world, few of which are free from it; and as art, in a great measure, owes its existence to an attempt to represent or embellish objects which are supposed to be the incarnations of spirits, the serpent is an important element in all art. So well is the serpent known as a religious symbol among the American peoples that it seems hardly necessary to present examples of the curiously interesting myths relating to it. We are not surprised to find the bird, the wolf, or the bear placed among representatives of the Great Spirit, and hence to find them embodied in art; but it would be a matter of surprise if the serpent were ever absent. With the Mound Builders it seems to have been of as much importance as to other divisions of the red race, ancient or modern. It is of very frequent occurrence among the designs engraved upon gorgets of shell, a multitude of which have been thus dedicated to the serpent god. It is a well known fact that the rattlesnake is the variety almost universally represented and we find that these engrav-



Fig. 11.—SHELL GORGETS FROM TENNESSEE.

ings on shell present no exception to the rule. From a very early date in mound explorations these gorgets have been brought to light, but the coiled serpent engraved upon their concave surfaces is so highly conventionalized that it was not at once recognized. Prof. Wyman appears to have been the first to point out the fact that the rattlesnake was represented; others have since made brief allusion to this fact. Among the 30 or 40 specimens that I have examined, the engraving of the serpent is, with one exception, placed upon the concave side of the disks, which is, as usual cut from the most distended part of the *Busyon perversum*, or some similar shell. The great uniformity of these designs is a matter of much surprise. At the same time, however, there is no exact duplication. There are always differences in position, detail, or number of parts. The serpent is always coiled, the head occupying the center of the disks. With a very few exceptions, the coil is sinistral. The head is so placed that when the gorget is suspended, it has an erect position, the mouth opening toward the right hand. To one who examines this de-

sign for the first time it seems a most inexplicable puzzle; a meaningless grouping of curved and straight lines, dots, and perforations. We notice, however, a remarkable similarity in the designs, the idea being radically the same in all specimens, and the conclusion is soon reached that there is nothing haphazard in the arrangement of the parts and that every line must have its place and purpose."

For convenience of comparison, we have arranged two series of outlines. The specimens shown in Fig. 10, page 217, are almost identical in size and shape.

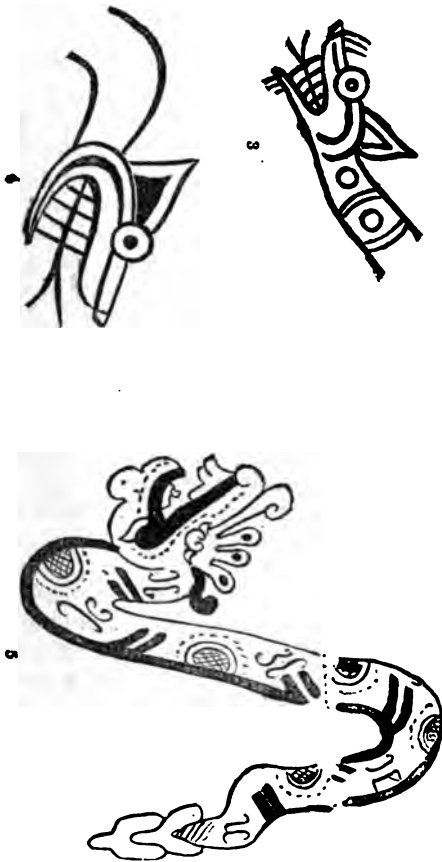


One fine specimen shown in Fig. 10, is from the Brakebill mound near Knoxville, Tenn., and is now in the Peabody Museum. It is five inches in length and a little more than $4\frac{1}{2}$ in width. The specimens illustrated on page 218 represent a somewhat different type of design but are found associated with the others. The three shown in Fig. 11, belong to the Peabody Museum and are from mounds in East Tennessee. The others are in the National Collection and come from the same region. Fig. 12 is an outline of a rattlesnake gorget, probably from Georgia, which is preserved in the Natural History Museum of New York. It is 4 inches in length by $3\frac{1}{2}$ in width. Fig. 13 represents a large specimen from Tennessee which is now preserved in the National Collection. The design is placed upon the gorget somewhat differently from the other specimens, the mouth of the serpent being near the top and the neck below at the right.



There is also a dotted belt at the right of the head which is not found in any of the specimens described. Figs. 14 and 15, represent drawings of serpents' heads found in the ancient city of Chimú, Peru. Fig. 16, is copied from one of the codices of Goldsborough and is a very spirited representation of a plumed and spotted rattlesnake. The tablet

shown in Fig. 17 is the most remarkable as it resembles many of the symbols found in the codices of Mexico, though it was found among the mounds. There is also a remarkable resemblance in the relic to some of the earthworks which we have already described. The remarkable plumed and feathered serpent given in Fig. 18, is painted on the rocks at Lake Nijapa, Nicaragua."



Figs. 14, 15, and 16.—SERPENTS IN PERU.

lines, and by a crosshatching that gives a semblance of scales. A curious group of lines occupying a crescent-shaped space at the right of the circular figure and inclosed by two border lines, must receive particular attention. This is really the first part of the head—the jaws and the muzzle of the creature represented. The mouth is always clearly defined and is mostly in profile.

In studying these designs the attention is first attracted by an eyelike figure near the left border. This is formed of a series of concentric circles, the number of which varies from three in the most simple to twelve in the more elaborate forms. The diameter of the outer circle of the figure varies from one-half to one inch. In the center there is generally a small conical depression or pit. The series of circles is partially inclosed by a looped band $\frac{1}{8}$ of an inch in width which opens downward to the border line gradually nearing each other and forming a kind of neck to the circular figure. This band is in most cases occupied by a series of dots or conical depressions varying in number from one to thirty. The neck is decorated in a variety of ways; by dots, by straight lines, curved

*Annual Report of Bureau of Ethnology.—1880-81 pp. 289-293.—Pls. LXIV, LXV, LXVI.

the upper jaw being turned abruptly upward, but in some examples, an attempt has been made to represent a front view, in which case it presents a wide V-shaped figure. It is, in most cases, furnished with two rows of teeth, no attempt



Fig. 17.—SERPENT FROM THE MOUNDS.

being made to represent a tongue. The spaces above and below the jaws are filled with lines and figures, which vary much in the different specimens; a group of plume-like figures, extends backwards from the upper jaw to the crown, or otherwise this space is occupied by an elongated perforation. The body is represented encircling the head in a simple coil, which appears from beneath the neck on the right, passes around the front of the head, and terminates at

the back in a pointed tail with well defined rattles. It is engraved to represent the well known scales and spots of the rattlesnake; the conventional figures being quite graphic. These figures are interrupted

in the upper part of the coil by a number of lines, which cross the body at right angles. The body is in many cases nearly severed from the rim of the disk by four oblong perforations which follow the border line of the design. In most cases three other perforations occur about the head, one represents the mouth, one defines the forehead and



Fig. 18.—FEATHERED SERPENT FROM NICARAGUA.

the third is placed against the throat." It is probable that some of these were intended to represent the common yellow rattlesnake of the Atlantic slope, the characteristic markings of which are alternating light and dark chevrons, while the diamond rattlesnake of the Southern States may have been a model for the others.

THE LODGE DWELLER.

Read Before the Anthropological Society, Washington, D. C., April 20th, 1886.

Early observers of American antiquities, struck with the magnitude of the ancient earthworks of the Ohio and Mississippi valleys, and duly imbued with the proper Caucasian contempt for the red man and his ways, in accounting for these great works, accepted for an established fact the existence of a relatively high grade of pre-Indian civilization, and the mystic mound builder was accordingly born. Subsequently it began to be suspected, through the scattered bits of evidence taken up here and there, that perhaps a mistake had been made; so that to-day it is not held heretical or impious for the student, who dwells among the tombs, to give a gentle tug at the veil which has so long obscured the features of this canonized aboriginal architect.

In Bancroft's "Native Races," under the general head of "Sacred Enclosures," mention is made of several groups of large earthworks in Ohio, of various forms and dimensions thus classified. In connection with these large enclosures the author remarks that small circles are sometimes found associated with the larger works; describing such circles as having a diameter from thirty to fifty feet, of low embankment, and with no entrance, and expressing the opinion that "these may very likely be the remains of lodges or camps."*

An ancient enclosure of considerable magnitude at Aztalan, Wis., is described in Foster's "Prehistoric Races." An irregular parallelogram of seventeen and two-thirds acres is enclosed by a ridge or wall about twenty-two feet wide, and from one to five feet in height. The plan furnished of these works shows many small rings or circles connected with the outlying ridges, which, to use Col. Foster's language, "are supposed to be the remains of mud houses, the materials of the walls having fallen in, left only a circular mound of earth to mark the original site." Within the ancient fortifications at Merom, Indiana, a large number of circular depressions were noticed, varying in width from ten to thirty feet, and Mr. Putnam, of the Peabody Museum, expresses the opinion that these pits were the houses of the inhabitants or defenders of the fort.†

Among all the remains that attest the degree and nature of aboriginal development, none have received greater attention or evoked more admiration than the Newark works, in Licking County, Ohio. Quoting from Squier & Davis: "A number of small circles are found connected with the works, and chiefly

*Bancroft's Native Races, Vol. 4, p. 761.

†Foster's Prehistoric Races, pp. 103, 136.

embraced in the area between the two principal parallels. They are about eighty feet in diameter, without gateways opening into them, and it has been suggested that they probably mark the sites of ancient circular dwellings." The same gentlemen say, in their account of the High Bank works, Ross Co., Ohio, which are of the same general character as those of Newark: "A number of small circles occur about a hundred yards distant from the octagon, in the forest land to the southeast. They measure nearly fifty feet in diameter, and the walls are about two feet in height. It has been suggested that they are the remains of structures of some kind, and also that they were the bases of unfinished mounds. There are no indications of entrances or passageways—a circumstance which favors the latter hypothesis. Similar small circles occur within or in the immediate vicinity of several other large works.†

At Madisonville, Ohio, Mr. Putnam found associated with certain curious "ash pits" what he denominated "earth circles," from fifty-three to fifty-eight feet in diameter, the exploration of which yielded beds of ashes, potsherds, flint flakes, etc. In the ash pits were found, in much greater abundance, household utensils and refuse. Regarding the use of the pits as somewhat conjectural, he concluded that their origin was to be attributed to the people whose occupation of the place was indicated by the circles. Subsequently Miss Fletcher, suggesting a use for ash pits, called attention to the fact that it was the custom of the Omahas, who were dwellers in mud lodges, to make caches outside the lodge for the reception of food and valuables; and that when the cache ceased to serve that purpose it was then used as a convenient receptacle for the ashes and refuse of the lodge.‡

During the years of 1879 and 1880 the writer gave considerable attention to the earth works in Mills County, Iowa, some account of which was furnished the AMERICAN ANTIQUARIAN.§ From the known habits of many western Indians it will not be difficult to account for the origin of the obviously residential earth works which were then located and explored, and the similarity of these remains to others associated with some of the greatest works in the Ohio valley and elsewhere has suggested the presentation of this paper.

This county lies in the southwest corner of the State, and is bounded on the west by the Missouri river. The greater part of the county is made up of high rolling prairie, diversified with level bottom lands lying along the water courses. The Missouri bluff line rises in a fanciful pile along the floor-like valley of the stream, to the average height of two hundred and fifty feet; sparsely wooded on its western face, but covered with a heavier growth as the hills recede from the river.

† Smithsonian Contributions to Knowledge, Vol. 1, pp. 50 and 70.
‡ 16th and 17th Annual Reports of the Peabody Museum,
1891, 1892.

Among these bluffs along the divides, scattered over the hill sides, nestling in the valleys, are many ancient foundations of the aboriginal domicil. But two forms of earthworks are found the mound and the circle. The former are comparatively small, and have thus far yielded but little return to the explorer; an occasional chip of flint or scrap of pottery furnishing about the only substantial evidence of their artificial origin; but the frequent association of the mound with the circle, which will be noticed further on, invites attention to the one as well as the other.

The appellation "circle," while perhaps conveying a very definite notion of form, has not seemed suggestive enough of use to merit adoption; and while it may be objected that a foundation is not a house, it has pleased my fancy to call these remains "lodges."

The lodge, then, is a circular excavation, varying in width from twenty to sixty feet, with a present depth of three or four feet. The soil removed in the process of construction was partly, if not wholly, piled up around the outer edge of the circle, so that a considerable wall was thus raised. In many instances no vestige of the outer wall remains, but I have found it often enough to convince me that its absence in other cases should be attributed to the effects of time.

As to evidence touching the age of these lodges, it should first be remarked that in cutting across the outer circle of quite a number, no remains of the posts or poles that once must have stood there were discovered. Over the original floor of the lodge, which will be found invariably on the clay, or rather. "bluff deposit," a black soil has accumulated to an average depth of two feet. And in making this statement it should be noted that, as in some cases the superficial deposit is very much greater than the average given, so it is in others as much less; so that the depth of the black soil may furnish some evidence of the relative ages of the various lodges when compared with each other, as well as proof of their general antiquity. The rapidity with which changes are, or may be wrought in the surface of the soil should not be lost sight of, if its depth over the old foundations is to be considered as one of the means of estimating their age. During the spring of 1880 a heavy westerly wind prevailed throughout Nebraska and southwestern Iowa. But little rain or snow had fallen in the preceding fall and winter months, and while the wind lasted the air was filled with a thick yellow cloud of dust. So persistent and effectual was the work that when it ceased the dust lay along the hedges and fences in drifts. The cultivation of the soil, of course, made the effects of the wind more marked; but the result was none the less suggestive. With one or two exceptions, the size trees growing within the lodge, have attained, does not give much indication of any great lapse of time following aban-

donment. However, in one case an oak stump eighteen inches in diameter was found standing in the center of a lodge. Finally, the traditions of the present occupants of this region take no note of these lodges; their origin, use, and existence being generally accounted for in the terms "buffalo wallow" and "sink hole."

During the period mentioned above, Mr. Seth Dean, the county surveyor, and the writer undertook the task of locating and exploring such ancient earthworks as might be found in the county, and mention will be made of three groups of lodges, then examined, as fairly illustrating choice of location and the extent of these ancient villages.

On the farm of O. E. Allis, in Oak township, there is a group of five lodges located on a hillside overlooking the Missouri bottom, and a short distance north of a small stream flowing down from the hills. This place has been under cultivation for a number of years, but the outlines of the lodges were yet well defined, and the ground littered with fragments of pottery and mussel shells. The presence of the latter seems to account for the location of the encampment so near the sloughs and bayous of the Missouri. A careful search for relics of the fireside, war-path, and chase was only rewarded by one arrowhead, (which, by the way, was well made and unique in form), a few quarts of broken pottery, a fair stock of paint stones, and two fragments of an arrow polisher, made of coarse sandstone lined with a straight central groove. Dean afterward found a pipe of catlinite, similar in form to those now in use among the Indians of the northwest, just south of the little stream mentioned above, where another lodge stood. The abundance of pottery, shells, and paint stones, contrasted with the small number of stone implements found here, is worthy of note for inquiry did not bear out the presumption that the latter had been mostly picked up before we visited the place. In the Smithsonian Report for 1881 will be found a short account of this village, together with a sketch of location, furnished by Mr. Dean.

One mile west of Glenwood, the county seat, and partly on the farm of T. D. Tipton, there is a series of lodges, seven in number, scattered along a crescent-shaped ridge for a distance of three-quarters of a mile. Near the southern end of the line is a large mound, eight feet high, seventy feet in length, and forty feet across. Mr. Dean's account of the structure, taken from the report as above, is as follows:

"Opened mound with S. V. Proudfit, Nov. 25, 1879, and dug a hole six feet long and four feet wide. At seven feet from the surface came to a layer of ashes about one-half an inch thick, and below this a layer of stones. These stones were from two to eleven inches thick, and would probably weigh from twenty to thirty pounds. They were evidently placed upon what was the

original surface of the ground, and the ashes and earth placed above them. The stones were probably brought from the Nebraska side of the river, about four miles directly west. The characteristic fossils in the stone indicate this."

I will add to this description the further fact that we found in the sides of the pit, at corresponding heights, stones similar to those found below, and that the mound had been disturbed before we made our exploration. The position of this mound affords a commanding outlook over the Missouri bottom to the west and south, and suggests to the most casual observer that the location was selected on that account. Several of the lodges were opened at the side and center, with no result save in finding pieces of charcoal and the usual quantity of broken pottery. In all of these diggings we never found a complete vessel but in one instance, and in that case we did not see it except in fragments, for an unlucky blow of the spade first called attention to the presence of the vessel where it had been left sitting on the fire in the center of the lodge. One of these lodges was three feet in depth and forty-five feet across, and filled with a young growth of timber, but most of them lay in cultivated fields where sharpness of outline had been destroyed. This group is perhaps a mile from the river bottom, and has furnished still fewer stone implements than the Allis lodges. No paint stones nor mussel shells are to be found; nothing but pottery, and that not so abundantly as at the former place.

One-half mile south of Glenwood, in the very center of the present fair ground, is another cluster of lodges. The location is utterly unlike that of the two already described. A level plat of several acres lies enclosed on three sides by hills, the fourth opening to the south upon Keg Creek, which just below this point finds its way through the bluff line. As in the arena of a great amphitheater, the village lay under the kindly protection of the surrounding hills that shut out the rough winds of the north and west, but let in the warmth and light of the sun. On the eastern side a small brook came down from the hills and emptied into the larger stream which bounded the encampment on its southern front. On the surrounding hills above the village must have stood the sentry posts of this little community, for without such precaution the insecurity of the position would have more than counterbalanced its other natural advantages. Being thoroughly convinced of the necessity for something like a permanent occupation of the commanding points above, by the people who dwelt in the little plain below, I persistently tramped over these hills, though they were covered in many places with heavy underbrush and young timber, searching for evidence in verification of my theory, but no mounds or earth works were discovered. On the crest of the southern end of the semicircle, however, where the bluff

overlooks both the village site and the Missouri bottom, I did find abundant evidence of an ancient workshop. The hill was strewn with flint chips and bits of pottery; while at the foot of the hill, where the public road has cut into the bluff I picked up a drilled tooth bead, an odd bone implement, mussell shells, bones, and several worked flints, all of which evidently had been washed down from the hill above. With this evidence in support of my scheme for the safe occupation of the place I was compelled to rest satisfied. The exact number of lodges within this village could not be ascertained, as the grading done in the preparation of the grounds for their present use must have destroyed several of the old foundations. Four were quite distinct when I first visited the place. Though the field had been under cultivation for many years, fragments of pottery were to be found in great abundance; while stone implements, embracing the whole outfit for the chase and fireside, arrowheads, drills, scrapers, the turtle-back, and more highly finished celt, added their testimony as to a long occupation. The arrowheads, though remarkably small, exhibited a degree of excellence in workmanship noticeably superior to any found elsewhere in the county.

While we found many lodges, both singly and in groups, besides those mentioned herein, the choice of location is perhaps fully illustrated without further specifications. The sunny southern slope, the breezy crest of a divide, and the sheltered valley, had each its own special advantage, which then as now would appeal to the sense of rest and security.

The mounds are but few when compared with the lodges, yet invariably occur in company with the latter. About a half-mile east of the mound in the Tipton village, stands another of nearly the same size, as yet unexplored. This has lying about it a small group of lodges, not exceeding three or four. North and west of Glenwood, about four miles on the old Pacific City road, is another low mound of considerable dimensions, with its attendant lodges. In fact, though locating a number of mounds we found none except in company with lodges. The deduction is therefore reasonable that these two forms of earthworks have a common origin; and there is nothing in the magnitude of either that calls for any theory to account for their construction outside of the known habits of many Indians of the Siouan family, when taken in connection with the enforced change of customs that followed the arrival of the white race.

Turning again to the consideration of those greater earthworks that have been set down as the undoubted production of the Mound Builder, who was not a red man, and noting the presence of the humble lodge, the acceptance of a theory which admits that the lodge dweller could have reared those mighty monuments certainly carries with it several pregnant suggestions. Who then was this lodge dweller? From the testimony of

Messrs. Squier & Davis, Bancroft, Putnam, Foster, and others, he was the very Mound Builder himself. Granted: but the lodge dweller of the west, though an unquestioned mound builder, has but lately forsaken the mud-built walls of his ancestors and accepted a home on the government reservation.

S. V. PROUDFILL.

Correspondence.

FRAUDULENT STONE OBJECTS, AND THE GASS CORRESPONDENCE.

Ed. American Antiquarian:

In *Science* of May 14th, Vol. VII, No. 171, appears a communication headed "The Davenport Tablets," from Mr. Charles E. Putnam, Pres't of the Davenport Academy of Science, which is added a letter from the Rev. J. Gass, containing misrepresentations, which in justice to Mr. H. C. Stevens and the writer should be corrected. Mr. Putnam writes that in correspondence with me, he desired that Mr. Gass should have an opportunity to inspect the relics in question, and requested that they be forwarded to the Davenport Academy for that purpose.

In one of Mr. Putnam's letters dated at Davenport, Iowa, Dec. 29th, 1885, he writes the following: "You will, I am quite sure, agree with me that there should be no concealment in scientific research. I feel free, therefore, to request of you the name of your 'visitor' to whom these letters were addressed, and that correct copies of the letters be sent me immediately. They are essential to investigations I am now making." That I did as requested, the following, quoted from his next letter of Jan'y 6, 1886, will show: "I am, however, greatly obliged for the unreserved frankness of your letters. They put me in possession of essential facts. I find it necessary to ascertain the scribe who wrote the letters, and whether the signature of Rev. Mr. Gass to them is genuine. To accomplish this we must have an opportunity to inspect the letters themselves, or fac-similes, or photographs of them. We, of course, would prefer the former, and if you will send them to us, we will see that they are promptly returned to you. Otherwise, if you will have the photographs taken I will remit to you the cost of same."

To this proposition I answered that, although the letters were in my possession they did not belong to me, and I would not be

them go out of my hands unless requested to by the owner Mr. H. C. Stevens. I would however write to him, and if he found no objection I would gladly forward them. As to photographing them, I at once acquiesced, and waited only to be told to proceed. Immediately after writing to Mr. Stevens I was informed that Mr. Putnam threatened libel suits against all who disbelieved the authenticity of the Gass discoveries. This put me on my guard, and I at once wrote to Mr. Stevens, telling of the threats made by Mr. Putnam, and I have but to quote again from his future letters, to show the true state of the case. "Should it however become necessary to investigate Mr. Stevens I shall take a more effectual way to do it." This threat I took to mean a threat suit for libel against Mr. Stevens. In the meantime a letter reached me from Mr. Stevens who said: "As to the the letters I do not know what to say. I think they ought to be kept safe for my protection in case a libel suit should be commenced." Under the circumstances I felt myself justified in not forwarding the letters to Davenport, and I also took occasion to chide Mr. Putnam for his strong and intimidating language.

In Mr. Putnam's last letter to the writer is found the following; "We certainly are entitled to inspect these relics, but unless Mr. Gass will travel to Pennsylvania, it seems he will not be permitted to do so. You are willing they should be used for assault but not for defense. So be it. We must do as well as we can without them. The matter of the "letters" may likewise stand as it is for the present. Should the photographs be needed hereafter I will let you know."

Now for the first time was I made aware that he wanted the so-called relics, but knowing of the threats made, and becoming annoyed with what he charged me I wrote him declining to send the relics or letters, intimating that there was no certainty that if he could get the frauds and letters into his possession, that he would return them in the same condition as sent. "They were not kept for assault but for defense."

The "Gass letters" are now in the possession of Mr. Stevens to whom they were written. I own the stone objects, and I intend to keep them. They were given me by Mr. Stevens, who said he cared nothing for them. I will be pleased to show them to any one who wishes to see them; the Davenport people not excepted. If they wish photographic copies of them I will be very glad indeed to grant their request.

Mr. Stevens in his letter to Mr. Gass, published in the March number of the *AMERICAN ANTIQUARIAN*, told the truth when he said they (the objects) no longer belonged to him, but to Mr. Berlin. Mr. Stevens never informed the writer "that many objects sent him were thrown out in the yard on a pile of other rejected relics. But he did write the following which I quoted in one of my letters to Mr. Putnam, who sees fit to interpret erroneously:

"I have a rock pile in my back yard composed of the heavier,

coarser and not much prized relics. *The two perfect pipes were put out with this pile, and remained there perhaps a year.*"

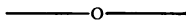
Mr. Gass professes ignorance of the fraudulent objects. All of them were fully described by the writer in the March number of the "American Antiquarian." When Mr. Gass was told that the stone objects were in my possession, he should at once have written me. I expected to hear from him, but not a word until his letter, prefaced by one from Mr. Putnam, published in *Science*, in which he reflects on me and on Mr. Stevens, as if we were setting up relics to make out a case against him.

If Mr. Putnam's articles have been denied admission into the columns of the ANTIQUARIAN, except under restrictions, he has himself and those that side with him to blame. This action of Mr. Peet causes no surprise when threats are made, and when one reads the sarcastic article by Mr. W. H. Pratt, curator of the Dav-
enport Academy, in the March number of that journal.

It is plain from Mr. Gass' own admission, that a fraud has been committed, and that he has offered to trade fraudulent relics for genuine relics from Oregon. If the character of every one is to be tested we are willing that the crucial test should be applied. It seems to be proven, however, that fraudulent relics have passed through Mr. Gass' hands, and no effort to break down the character of those who have criticised his course will now avail.

A. F. BERLIN.

Allentown, Pa., May 22, 1886.



PRE-ADAMITE FOOT-PRINTS.

Editor American Antiquarian:

In the issue of your valuable Journal for November last—lately received, I was sorry to see my article on "Foot-prints" misrepresented and held up to ridicule by an anonymous correspondent, I quote his language.

First, "It appears that Mr. Flint, among some really valuable discoveries, came across what he believed to be two impressions of the human foot on a rock in Nicaragua."

No one reading the report of their mode in the ANTIQUARIAN, March, '84, would reduce the impressions to two. From the space uncovered by me I had permission to *remove two*. From outside parties I obtained two others, I sent all four to Peabody Museum; see report for 1884, which advise your correspondent to read; also the fourth and fifth line, page 112th of the Antiquarian. They read "I uncovered six rows of impressions, breaking through a layer of rock seven inches thick, over a space six yards by two." After reading this how can he sustain his statement that I had found two?

Like the newspaper critics, calling out my letter in the May number, he makes an amusing story, not (amazing as he calls

mine), written like all of its class, with little attention to facts, and no understanding of the subject treated; disseminating among general readers false views of the most important discovery touching man's antiquity, yet found on this continent.

All this controversy originated from a similar article, published as stated by the "El Porovenier," circulated in various papers of the U. S., one of which caused me to explain the matter in the May number, mentioning the San Rafael trip, (omitting mention of a foot-print lately forwarded from there), and locating those found there, in the tufa.

Second. From remarks on page 373 you also misunderstood me; my correction was in transferring the foot-prints from the sedimentary rock to the tufas, thus *augmenting* their antiquity.

Had you printed the drawing of the strata, overlying the foot-prints with my article, it would have been more convincing than any argument of mine; it was all important to show the geological age of the foot-prints. After the 5th eruption, there was a repose of many centuries, during the accumulation of the clay. Above this, and *under* the ash of the 6th eruption (nearly equaling in hardness the tufas) we find fossil leaves and plant stems, distinct from those of the lower layer, on which the foot-prints occur.

Now why is it an "error to assume that foot-prints found on the surface of rocks are as old as the fossils beneath?" when that rock is but a few inches in thickness, and was accumulated suddenly, or in a few years, from volcanos in eruption? Your correspondent must be unfamiliar with tufas or overlooked the fact that my remarks referred only to this class. The first eruption on which the foot-prints occur, is more or less uniform, and at the location, about 30 inches in thickness, in the space worked over, (about 30 acres). Volcanic ash predominates in its structure; and the time for its deposit was not of great duration, nor the plasticity of its surface long in hardening. The latter fact seems patent, for when uncovering the impressions I noted an elevated ridge surrounding them, forced up by the weight of the individual as he walked slowly along.

Parallel with one there was a row of oblong holes, seeming at first sight to have been made by a wide staff, carried by the person making the near impressions to aid him in walking, but on examination I found they were foot-prints made by one who passed earlier and sank deeper, the soft mass falling back and filling the impressions; others were barely visible, made when the surface was nearly dry.

That their authors were inhabiting the region at the time of the eruption, seems evident, as volcanic ash, moistened in a fresh state soon hardens, and will not resume its plasticity after drying, verified by experiment here.

With reference to the leaves, they were similar to those *trodden into the surface* of some impressions. One among others given to President Cardenas, I saw on the Palace Corridor, selected by the Architect, from blocks of the lower layer, brought daily from the quarry each containing a number, varying with their size.

The natives ignoring their value took no measures to preserve them, and thousands were lost.

Whether or not the authors of the impressions were cotemporary with the fossil leaves on the surface, the stems of plants in the layer of tufa, or leaves below, is of minor importance, when we find in eruptions succeeding it, after a long geological period similar fossils of a distinct horizon, allied with others in sedimentary rock, overlying the first tufa, owing its origin to one of those succeeding eruptions.

Had I found the impressions at San Rafael, as reported to me on the sedimentary rock it would reduce their antiquity many centuries.

Your correspondent can with little trouble examine the Peabody specimens, and convince himself, that the rock when receiving the impressions, was as soft as the sea-beach when trodden by Crusoe's man Friday,* then admit them as pre-Adamite or not. Unfortunately from the latter, we have no records, no Holy writ, only their recognition in ours of another race, sustaining the doctrine of distinct creations.

Why should the author of all life confine himself to one race of human beings and multiply their monkey prototype?

Third. As to the "Sculptors" who passed through Nicaragua at some period in the remote past being the *authors*, or capable of producing footprints, I cannot admit it. At least no sculptors living or dead, can produce on the reverse of one of these blocks at Peabody, a counter impression equal to the original—the nature of the material will not admit it.

The "sculptors" he refers to were preceded, by the pre-Incan migration coming from Bolivia, along the summit of the main Cordilleras; their inscriptions are seen on the little island north of Zapatero, on volcanic rock formed of eruptions from the latter, subsequent to the tufa containing the impressions.

Subsequently the soil accumulated over the inscriptions on the little island, preserved them. On this, the Idol sculptors set up their handiwork, long after their predecessors had passed north. See Antiquarian for Nov'r '82.

Fourth. Your correspondent says Mr. Priest takes the same ground as myself in reference to a scroll in front of the imprints!. Nothing of the kind occurred in my letter. Farther on he says. "a multitude of tracks might possibly be mistaken for genuine impressions." We have multitudes here, unfortunately *mistaken* for human. Over two acres were quarried, the impressions were identical with those of the human race, whose feet were models of perfection: no flat-footed race, therefore must accord their authorship to one of the monkey race, and make further search for some impression with a caudal appendage.

Fortunately many acres remain, and when the museums become rich, they can spend money to no better advantage, than sending you correspondent here to quarry them out, and take the SLAB

*"That the imprints were made by the feet of men, while the material of which the rock is formed was in a plastic condition, there is not the least doubt." Report of Peabody Museum, 1844.

home to refute my "*amazing story*." Asking Eads, in the meantime to invent a mode for transporting this three-league slab.

Fifth. A word about the cave inscriptions connected with the "*amazing story*," and we will have done.

Fortunately the one referred to at San Rafael, requires no argument to prove its antiquity, filled as it was with solid sandstone, deriving its material from sea sediment, uplifted by the 6th eruption, this being carried by the annual floods, was deposited in layers of variable thickness. Between them were foot-prints of animals and birds, who had sought shelter there; at least we took them for such, forwarding the animal tracks to Peabody.

If not removed since my visit, part of three inscriptions are still under the sandstone supporting the roof, so left until my friend Dr. Berendt, to whom I had written at Guatemala, could visit the location.

At no great distance from the cave, were decayed "shell-heaps," I could not then identify them with the cave dwellers.

The sedimentary rock covers immense beds in the neighborhood, oysters of enormous size.

Oyster shells from these beds can be seen at the National Museum, found near one of the caves, evidently alive at the time the caves were submerged by the ocean sediment, at the upheaval of the coast range, and used as food, judging from the Pliocene "Kitchen Middens," extending southward along the coast, and explored by me for over 100 miles.

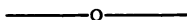
Subsequent streams from the mountains have cut through these "Kitchen Middens," whose banks are solid masses of compact shells, in places over 10 feet in height, and *all* contain fragments of broken pottery, human, animal and fish bones; various excavations of those undisturbed, and covered with *enormous* trees, give like results; these shells are all Pliocene.

The roof inscriptions in the cave, are far superior to any throughout the State: Their authors probably saw the first eruption, how long they had previously occupied the region is a matter of conjecture. Did they make the impressions? Did they belong to distinct creations? Let your correspondent come and verify, the facts for himself. He will find them as stated.

Yours truly,

EARL FLINT.

Rivas, Nicaragua, Jan. 26, 1886.



MORTUARY CUSTOMS OF THE PUYALLUPS.

Ed. American Antiquarian:

At the death of a person of whatever sex or age, the first thing noticeable, is great mourning, expressions of intense grief, which is shown by both men and women, in loud weeping. This is con-

tinued long after the interment of the deceased, perhaps four months at the longest. However, its continuance is by women only, the weeping of the men lasting only a few days. When it is a case of the longest time of mourning, the mourned for, is generally a child and a son who was very dear to the mother or mourner which is always the case.

For the place of mourning, the woman chooses a hidden spot, far from any dwelling and where no one is likely to disturb or intrude upon her. To this sequestered spot she retires for a time daily (generally morning is the time) when her very pitiful wailing can be heard even from afar off. As the man weeps, he distributes a large portion of his property among the mourners proportionately, as they are more or less distantly related to the deceased. He does this to express how much attachment he had for the deceased, consequently his grief.

As to their mode of burial, it seems evident that there was more than one, in times past, but so far as the writer can remember, they always gave their dead, in the main, christian burial, the only deviation being that, sometimes, they would put in a few dollars, or something else rare and of high value among them, as a sacrifice in token of affection. Evidences of putting away the dead on the branches of trees or on scaffolds are given by old canoes supported on branches of trees in which are found bones and skeletons. They probably put only a single corpse in a canoe wrapped up in mats made of rushes. The dead are deposited in regular places reserved as graveyards.

If the deceased be a child, all the old clothing, playthings, and every thing else pertaining to him are gathered and buried in some place distant from the dwelling. His pets, such as dogs, are sometimes killed. These are for the purpose of burying all memories of his life, because if the bereft should see anything which would bring back memories of the happy past, it would bring back sad thoughts of bereavement and thus add fresh grief.

The bereft family remove from their dwelling immediately after the death of the deceased because of the fear that some one else of the family may be induced to follow the dead relative. This comes from the belief that the spirit of the dead one will haunt their old dwelling ever after and, as a result from this, sometimes someone of the family sees the departed one in his sleep. When this happens, it is regarded as an omen of some coming misfortune upon the family.

A few years ago, when ever any person died, the relatives and friends invariably laid the cause of his death on some *throdà-ub* ("medicine man") or *temanwus man*, (Jargon) and if they did not fear his relatives, they did not hesitate to have some one of their number kill him at the first opportunity. Such an occurrence not unfrequently caused bitter hatreds to rise between the friends of the two parties chiefly concerned.

After the death of a person, his or her name is never mentioned for the reason already stated. When this is unavoidable he is design-

nated as "the one departed." Any thought or conversation concerning him is avoided as much as possible, and whenever it is unavoidable he is always mentioned with reverence. In this respect, parents are very strict in training their children. The observance of this is not so strict after a period of several years when the mourners have forgotten their grief; for if the deceased was a man of years and famous for his achievements in life as a hunter or warrior, some descendant, a great grandson, for instance, is named after him. The custom of avoiding speaking or thinking of the deceased is not much observed by those who are not relatives of the deceased since they have no affection or respect for him.

*SAMUEL R. McCaw.

The Museum.

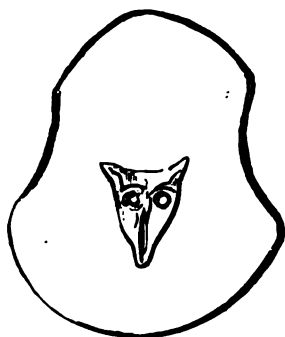
DEVOTED TO THE INTERESTS OF COLLECTORS.

EDITED BY EDWIN A. BARBER.

As this department of the ANTIQUARIAN is designed especially for the interchange of views amongst archæologists, the description of their collections, the illustration of rare or unique specimens and the promotion of exchange, collectors are invited to contribute items of interest, to furnish photographs or sketches of antiquities for reproduction and to take an active part in making the *Museum* a repository for all sorts of interesting and valuable information concerning pre-historic relics. As it is not intended to be strictly scientific, it is particularly adapted to the needs of young collectors. Communications for this department should be sent directly to the editor, at West Philadelphia, Pa.

A TOTEMIC AXE OR CEREMONIAL IMPLEMENT.

Mr. A. G. Richmond, of Canajoharie, N. Y., possesses a curious axe or totemic stone, which has engraved on one of its faces, in low relief, the head of a wolf or fox. It is made of a soft, gritty stone and is one-half inch thick in the center. Its edges, which are blunt but unbroken, indicate that it was intended for ornament rather than use. It was found on the surface, a few years ago, in Montgomery Co., N. Y., in a location once occupied by the Indians, just back of the Mohawk River. The illustration is one-third the size of the original.



*The author is a student in Earlham College and as a member of the Puyallup tribe is able to speak intelligently.--ED.

AMONGST the remains of the Lenni Lenape or Delaware Indians,



pipes are exceedingly rare. Those which have been found possess no tribal characteristics. The majority are made of clay. A specimen now in the collection of Philip and Alfred Sharpless, of West Chester, Pa., was found in Chester Co. some years ago, and is here figured in its natural size. It is made of a compact, light gray stone, is conical in form and absolutely perfect.

COLLECTORS AND COLLECTIONS.

In laying the foundation of a barn, in the town of Fleming, N. Y., the workmen unearthed, in the latter part of March, from ten to fifteen human skeletons and about 7,000 beads, six brass kettles, two guns, one sabre, a discoidal stone, a clay pipe and several shell ornaments, the majority of which were procured by Mr. W. W. Adams, of Mapleton, N. Y. His collection now numbers 12,000 specimens.

HON. WM. McADAMS, of Alton, Ill., has recently sold his entire collection of antiquities to the State Museum of Illinois. This is one of the finest collections in the United States. It contains 42 human skulls from mounds; 100 grooved and 100 ungrooved stone axes; 60 discoidal stones; 50 plummets and pendants; 50 mortars and pestles; 100 pieces of pottery, the majority of them perfect vessels, some moulded in the form of men, animals, birds, fishes and shells; 50 stone pipes and carvings; several thousand arrow and spear points, and a fine series of copper implements, such as awls, beads, ornaments, a copper axe and a shell with a carving of a human face.

NOTES.

MR. WILLIAM WALLACE TOOKER, of Sag Harbor, N. Y., has in his possession a glass rum bottle, of somewhat globular form and measuring about seven inches in height, which was found in 1874, in a grave at East Hampton, Long Island. It is of a dark green color and similar to the one mentioned in a recent number of the ANTIQUARIAN, as having been found by Mr. W. W. Adams, near Mapleton, in the same State. The former was one of nine which were placed in a circle around the head of a corpse. Associ-

ated with the bottles were shell and copper beads, shell ornaments, stone pestles, pewter spoons and other objects. The graves at East Hampton date back to about the year 1662, according to local history.

COLLECTORS of pottery and porcelain will welcome the appearance of a valuable little work from the pen of Mr. Frederick Rathbone of London, the best authority on the productions of the famous potteries at Etruria, entitled "Old Wedgwood and Old Wedgwood Ware." It is a handbook to the collection formed by Messrs. Richard and George Tangye, now being exhibited at the Birmingham Art Gallery and Museum, and contains a sketch of Wedgwood's life and labors and a chapter on the marks used at Etruria. It is embellished with fine engravings of twenty-five representative specimens, and contains much interesting information, acquired after many years of careful study, which cannot be found in any other work. It is published by Mr. Rathbone, at 20 Alfred Place West, South Kensington, London S. W. Price one shilling.

THE NATURALISTS COMPANION, an amateur scientific paper, is published at Brockport, N. Y. The archæological department, which will be the most prominent, will hereafter be edited by Mr. Harry F. Thompson of Indianapolis, Ind.

THE fourth volume of the Proceedings of the Davenport Academy of Natural Sciences has just been issued. This is by far the most valuable that has been published by this energetic society. It contains, amongst much other interesting matter, two valuable, illustrated papers, one by Dr. W. J. Hoffman, entitled "Remarks on Aboriginal Art in California and Queen Charlotte's Island" and another by Mr. Wm. H. Holmes on the "Ancient Pottery of the Mississippi Valley," the latter being a study of the collection of this Academy. The volume contains 347 pages.

RELICS IN SOUTH CAROLINA.

Editor Am. Antiquarian.

Your circular sent to me at Newberry, S. C., has been forwarded to me at this place. I take pleasure in giving you a sketch of the relics I have accumulated at odd intervals during the past three years.

My collection numbers about twelve hundred specimens and is mainly from Newberry Co., S. C., with a few specimens from the counties of Lexington and Richland. It consists of arrow-heads, spear-heads, knives, scrapers, perforators, axes, belts, hammers, mortars, discoidal stones, stones with cup-shaped depressions, (pigment mortars?), whetstones, (these have been worn in grooves, and were probably used for sharpening bone fishhooks and awls), perforated tablets of slate and steatite, net-sinkers, pipes of stea-

tite (angle of 60 degrees), fragmentary pottery of clay and and steatite, and a ceremonial axe, perforated and two-bladed, shaped like an ancient battle-axe.

The last named specimen I consider the most interesting one in my collection. It is of diorite, and the only one, so far as I can learn, that has ever been found in this part of the state. The arrow-heads show a great variety in form and material, and among them are some fine specimens, bifurcated and serrated. The majority, however, are white quartz, leaf-shaped. I have classed as spear-heads four perfect specimens from four to six inches in length, and from one to two inches wide, which resemble greatly the knives or daggers figured in Plates I and II, Vol. VII, *Rep. of G. & G. Survey West of 100th Meridian*. I have one spear-head of unusual size. It is of diorite, ground, (not flaked), and is four inches long, two and a half inches wide, and nearly an inch in thickness. It weighs twelve ounces.

Among my grooved axes I have a specimen which I am unable to name. It is seven inches long, two inches wide, being nearly round below the groove, and pointed at the end. I give an outline. My idea is that it was an agricultural implement, a hoe, or pick-axe.

A few years ago a friend of mine in Richland county, S. C., gave me a number of shell-beads, perforated and polished, from $\frac{1}{2}$ to $\frac{1}{4}$ inches in length, and about $\frac{1}{4}$ inch in diameter. They were plowed up on the banks of Broad River and with them were found several human teeth, and fragments of a human skull. These are now in my collection.

I have also a few arrow-heads, bone awls, shell fish-hooks and ornaments, and a little string of wampum, which I procured by exchange with Rev. Stephen Bowers, San Buenaventura, California.

My mortars are very rude. The largest, holding less than a quart, is a round sand-stone weighing fifty or sixty pounds.

Very truly yours,

JOHN HAWKINS.

Prosperity, S. C.. Jan. 23, 1886.

MEXICAN RELICS.

Ed. American Antiquarian:

I received some time since your little circular letter, requesting a description of my cabinet. This is the first opportunity I have had to comply. You may put me down as a subscriber to your "Archæological Relics," It is just what I want.

In my collection the valuable specimens are all from Father Fischer, excepting Nos. 131, 158 and 166. He is now an aged man in indigent circumstances and found himself obliged to realize on his "Antiquities." Being his intimate friend, he gave me preference as a buyer. In masks, labrets, articles of copper, malactls,

ear-rings, nose-rings, musical instruments, lance-heads, etc., his collection was second to no private one in Mexico, and in many respects superior to those in the National Museum here. I would also call special notice to Nos., 10, 26, 34, 37, 55, 57, 72, 91, 95, 96, 99, 100, 109, and the necklaces.

Of the 166 lots classified here only two—132 and 137 are not from Mexico, and the antiquity of all the others, except perhaps four, is undoubted.

The first 130 lots comprise the famous Fischer Collection gathered by the present curate of the San Cosme Church—who was spiritual adviser to Maximilian and member of his Cabinet during the Second Empire.

80.

1. Texcocan Idol; length 5x1 inches in diameter; cylindrical; serpentine.
2. Copper Instruments; Money; (?) or for Agriculture. (?) See *Anales del Museo*. Vol. I. p. 383. See Blake's Catalogue Nat. Museum, p. 100; square. 53.
3. Copper Instruments. See Ober's Travels in Mexico, p. 544.
4. Amulets; 24 in number; varying in size; several from the Ramirez collec'n.
5. Tecpanecan Idol of Clay; household idol; 5x½ in. diam.
6. Texcocan Idol; Serpentine; 1x1½x3 in.
7. Copper Chisels; 9 in number; 2 from Ramirez coll'n; from 2 to 5 in. length.
8. Spindle Whorls; 6 malactls; clay; all about 2 in. wide by 1 in. high.
9. Polishers; 8 stones; small; various sizes and from various places.
10. Ancient Paper; strip 7x4 in.; not from Maguay fibre but tree bark; State of Vera Cruz.
11. Modern Paper; strip 10x4 in.;
12. Necklace; found by Dr. Penafiel in tumuli at Atonilcoel Grande; 48 stone beads; fine.
13. Hammers; (?) 2; no specimen in this collection has groove except No. 85.
14. Macana; mod'n handle; 3 ft. 4 in. long; 8 teeth of obsidian; each 2 in. sq.
15. Lance Heads; 3; polygonal cores of obsidian tapering to points; 5 in. long.
16. Sacrificial Knives; 9; obsidian; polygons; fine specimens; 4 to 5 in. long.
17. Copper Needles; 3; from Ramirez collection; 3 to 6 in. long.
18. Tlaxcaltecan Idol; 2x1x1½ in.; fine stone.
19. Toltec Idol; serpentine head; high forehead; hook nose, unique.
20. Face or Mask; Aztec 1x1x1-16.
21. Otomi Idols; rude; stone; 4½x1½x2½ in.; 2 in number.
22. Toy Spindle Whorls; (?) 8 pieces; cylindrical; 1-2 in. diam; possibly amulets.
23. Lip Ornaments; *Teutels* or *Bezotes*; 12; 10 of obsidian; 2 of rock agate;
24. Necklace; 35 beads; stone, except one sulphate of iron.
25. Ear Pendants; *Nacochtli Mexicano*; green stones; 2.
26. Stone Bead; 1 in. square; 6 holes, carved into the likeness of a rope knot.
27. Hammer; (?) Texcocan; finely worked; lapidary instrument; (?) 2 1-2 x 1-2 in. diam.
28. Arrow Heads; 11 of obsidian, 3 of flint; part of Ramirez collection.
29. Sacrificial Knives; obsidian; used for drawing blood in penitance; 6.
30. Darts; Obsidian; 4 and 5 in. long; Tlaltelolco.
31. Maskoid; marble; Cholula; 4x3 1-2 in.
32. Spear Heads; 16 in number; from 5 to 8 in. long; 2 to 3 in. wide; flint.
33. Idols of Stone; 4 in number; State of Guerrero; green stones, very singularly marked.
34. Spindle Whorl; stone, and therefore rare; 1½ in. diam by 1½ in. high.
35. Household God; beautiful green stone; Ramirez collection; 3 cornered; 2 1 2x1 1-4 in.
36. Household God; deep green stone; Ramirez collection; Zapotecan; singular carving.
37. Knife Handle; (?) stone; serpentine; hieroglyphic; cut through as with a lathe saw.
38. Zapotecan Idol; Ramirez collection; similar to No. 36.
39. Aztec Gods; stone; full length figures; 2 in. long; 6 pieces.

40. Ear-rings; obsidian; Ramirez collection; resemble sleeve buttons; very delicate; 4.
41. Ear-rings; 4; obsidian; Ramirez col. thin as glass; appear like toy wristbands.
42. Clasps(?) or Buckles(?); stone; very delicate; small crescents; Ramirez; 5.
43. Nose-rings; 3; Ramirez; obsidian; marvels of workmanship.
44. Relic of Noche Triste, piece of the memorable tree under which Cortez wept.
45. Shell Ornaments; Tepoztlan; 2 snail shells found in a mound.
46. Copper Wire; 2 pieces, each 6 in. long; each strand is of 4 fine wires.
47. Copper Belles; 9; all made of welded wire hammered together;
48. Stone Idol; beautifully polished; interesting coiffure; quartz; 5 1-2x3 in.
49. Clay Idol; from Chalchicomula; hollow pottery; goddess; 6 1-2 by 3 in.
50. Clay Vessels; rude and inferior to Aztec work; 4 pieces; Otomi(?).
51. Lance and Arrow Heads; 12; 7 flint; 5 obsidian; 1 to 6 in long; Texcoco.
52. Clay Idols; Texcoco; 6; (see Holmes Anc. Pot. Miss. Val.: Fig. No. 92.)
53. Stone Idols; 1 Chichimecan. 2 Otomi; all from excavations in Texcoco.
54. Stone Polishers; 8; all from Texcoco; 1 to 3 in long.
55. Clay Pipe; Texcoco; (See Blake's Cat. Nat. Mus. Mex., page 103. Nos. 1 to 3.
56. Clay Maskoid; Texcoco; very peculiar; dark stone-like color; 4x4 inches.
57. Ornament; (?) serpentine; 4 1/2 in. long; 1 in. diam.; hole 1-2 in. diam.; drilled entire length; rude face of Tlaloc carved on surface.
58. Musical Instruments, 1 whistle of stone and 1 of clay; Otomi; small.
59. Mirrors; Texcoco; hemispheres; 2; sulphuret of iron; highly polished.
60. Bronze Chisels; 90 parts copper, 10 tin approximately, 2. See Vol. I, p. 117. *Anales Museo.*
61. Reptile Carving; Toltec; Snake; serpentine.
62. Stone Flute; 6 holes; 8 1/2 in. long; lower end terminates in serpent head.
63. Stone Idols; Acolhuan and Otomi, 6; serpentine.
64. Stone Idols; 5; all of white stone; 4 human figures; 1 head of animal.
65. Stone Idol; 1; head and coiffure only; 6 small holes around chin; 5 holes in head-dress.
66. Stone Idol; 1; Tlaxcaltecan; 2x1 in.; resembles a swathed mummy.
67. Clay Idols; 4; Texcoco; 3 to 5 in. high.
68. Clay Vessels; 2; Texcoco; Ollas; one has figure of Tlaloc.
69. Fish; (?) Ramirez col.; called "fish," but for me it is an alligator; 4 1-2x1x 1/2.
70. Musical Instruments; 2; 1 rattles; (?) Tlaltelolco; 1 whistle; Texcoco.
71. Darts; (?) 2; 8 in. long; bone; stone arrowheads riveted in the bone; Texcoco.
72. Temescal Mortar; from Bath of Nezahualcoyotl in the hill of Iztapalepen.
73. Obsidian Idols; 4; all different in head-dress; most choice examples: Aztec.
74. Obsidian Maskoid; teeth and whites of eyes are of bone skillfully inserted.
75. Obsidian Idols; 2; Chichimecan; Texcoco; found in excavating for sewer.
76. Zapotec Idol; green stone; very old; prism shaped.
77. Stone Idol; Mixtec; highly polished; may have had bone insertions for eyes; arms folded.
78. Stone Heads; 2; Huastecan; 1 to 2 in. square; extremely odd in appearance.
79. Stone Amulet; 4 1-2x2 in.; thin green stone
80. Clay Rattles; 3; one is 24 in. long, one 12, and one 6 1-2 in. Guadalupe.
81. Human Femur; Toluca Mound; 16 in. long; Matlancingo.
82. Clay Dish; Toluca Mound. (See Fig. 7; Holmes Ant. Man, site of Mexico.)
83. Copper Head; Tlaltelolco; hollow; "Most precious find of my col.," Fischer.
84. Copper Bell; moulded, not welded; Tenangodel Valle.
85. Stone Idol; Teotihuacan; 4 1-2 in. high; hammer with groove for handle(?) Human figure.
86. Amulet; Zapot; 3; 2x1 1-2x1 1-2 in. Serpentine; Face.
87. Clay Idols; Cholula; 3; 1 is possibly modern judging from the head-dress.
88. Ear Pendants; (?) obsidian; marvels of skill; 4 hollow cylinders 2 in.
89. Stone Goddess; 2 1-2x1 1/2x 1/2 in; white stone.
90. Clay Objects; 2; 3 are *European* heads from an old tumuli in Tecometl; probably portraits made soon after the Conquest; by Tarrascan Indians.
91. Rock Crystal Skull; 1 1-2x1 1-4x1 in.; carved in exquisite proportions; Aztec.
92. Clay Idol; Tlaltelolco; 4 1-2x2x1; household god.
93. Stone Maskoid; serpentine; 6 1-2x5 1-2x1 1/2 in.; heavy; eyes inlaid; Grim.
94. Clay Dishes; similar to Figs. 7 & 8; Holmes Ant. Man, site of Mexico; 2.

95. Cinerary Urn; stone; 9x8x7 in.; face carved on lid and end; serpent on side.
96. Large Stone Idol; 14x9x8 in.; "Indio Triste;" master piece of perfection.
97. Rattle(?) clay 8x1 1-2 in. diam.; possibly pot leg; Tlaltelolco.
98. Clay Idol; Tacubayo; 1½x1x½; diminutive, but well defined markings.
99. Coyote Head; obsidian; exquisite; hole for suspension as amulet.
100. Sword; obsidian; 17 1-2 in. long; 6 in. wide; largest piece in Mexico.
101. Hemisphere; obsidian; 4½ in. diam.; polished mass; use unknown.
102. Marble Maskoid; 5 in square; 3 in. thick; small holes mortised in corners of eyes and mouth for securing inlaid bones; precious.
103. Serpentine Maskoid; 5 1-2x5x2 in.; face full of expression; corners of eyes and mouth have *tenons* for holding precious stones. These tenons are the exact counterpart of the mortises in No. 102.
104. Clay Vessels; 3; one is an incenser; all from Zinacantan.
105. Clay Vessels; 21; all sizes; from Teuango del Valle.
106. Lance Points; 2; 10 & 12 1-2 in. long; flint; a rare size; Huejotzinco.
107. Musical Instrum'ts; 1 clay whistle, 1 rattle or bells, sonorous; Tlaltelolco.
108. Head of Monkey; Mexican; clay; 2x2x1½ in.
109. Censer; exactly same as Fig. 12 of Holmes Ant. Man on site of Mexico.
110. Copper Tools; 2; 5 and 6 in. long; 2 in broad; Guerrero.
111. Stone Idols; 5; from Tasco (ancient Tlaxco); peculiar green stones.
112. Bone Mask; Ramirez collection; 1 1-2x2 in.
113. Stone Idols; from State of Guerrero 5; 3 to 5 in. high.
114. Clay Idols; 3 from Tlaltelolco; one is Quetzalcoatl.
115. Amulets; 2; Tlaltelolco; agates.
116. "Seals" or "Stamps;" 16; all from Tlaltelolco but one, (Tasco); see Blake's Col. Nat. Mus. Mex., page 103.
117. Amulets and Idols; 9; Texcoco; 6x2x2.
118. Tlaloc; Stone Idol; Shores of Lake Texcoco; 6x2x2 in; quartz.
119. Amulets or Beads; " " 25 buttons of blue stone.
120. Copper Awl; bone handle; 8 in. long; rare.
121. Necklace; 58 beads; stone; 3 ft long.) Some of these beads are each 3 in.
122. " " 33 " " 28 in. long.) long with holes drilled lengthwise.
123. Stone Maskoid; Tlaltelolco; 4x2 1-2x1; white marble.
124. Clay Figures; Tlaltelolco; 4 to 5 in. high; warriors.
125. Clay Vessels; 7; Toluca; range from 3 to 10 in. high; fine collection.
126. Stone Pedestal; 16 1-2 in. diam; 10 in. high; heavy; base of a pillar.
127. Necklace; 35 beads; some rare stones.
128. Stone Mask; 7x6x1 in.; eye and mouth holes go clear through mask.
129. Petrified Tooth of Mastodon; Zacualpan ranch of Ex-President Gonzales.
130. Necklace; 19 beads; some fine stones.
131. Hieroglyphic Painting; 5 ft square; on 4 deer skins joined together with thongs; represents a great cavern with sentinel at entrance; inside are a number of "Tiger Warriors" with prisoners for sacrifice; also priest on summit of pyramidal temple sacrificing; many Aztec hieroglyphic symbols on walls of cavern; (though the painting came from Oaxaca.) Have agreed to send it to the Smithsonian for inspection and opinion.
132. Reed Flute; 3 holes; purchased from Apache scout, Deming, N. M., 1881.
133. Polisher; pale green marble; hour-glass shaped; Texcoco; 2 1-2 long by 2 inches wide.
134. Serpentine Idol; 4 in. long; Otomi; rudely finished.
135. Clay Goddess; 8x5x1-2 in.; Tlaltelolco; flaring head-dress.
136. Sun God; porphyry; 3x2x1½ in.; carved in bass relief; singular markings.
137. Necklace; deer bones; jointed to resemble rattle-snake; from Apache women; 19; Apache, 1879.
138. Polisher; 2x1½ in.; amber color; like petrified gum.
139. " 1 1-2x1-2; obsidian; barrel-shaped; high finish.
140. Idol; serpentine; rude attempt of an Otomi; 2x½x½ in.
141. Amulet; serpentine; 1x½x½; heiroglyph same as 17 in Fig. 9, page 54; Am. Antiquarian, Jan. 1886.
142. Whistle; black ware; Nonoalco (possibly modern), 4 holes; snake; 10 in lg.
143. Necklace; 17 beads; stone; bone and shell; all very small, 3 exceedingly so.
144. Arrow Heads; so small may have been toys for boys; 11; all obsidian,
145. Lip Ornaments; 3 obsidian; 1 rock crystal; Aztec Labrets.

146. Buttons: (?) so called from their resemblance: 2: Malachite.
147. Labrets: 2: obsidian: unusually large: high polish.
148. Sphere of Lava: 5 in. diam: cone-shaped holes drilled to center from opposite sides: found in Amecameca.
149. Face. of white stone: 1x $\frac{1}{4}$ in. Toltec.
150. Head: serpentine: 1 12x1: Toltec: curious head-dress.
151. Amulet: serpentine: curious hieroglyph: 1x $\frac{1}{4}$.
152. Deer Skinners: stone: 3: chisel shapes: polished.
153. Fetiches: (?) Aztec: 2: odd shapes: one of dull obsidian: 1 of polished marble.
154. Heads: small: Teotihuacan: portraits(?).
155. Handle of Knife: obsidian: tapering to a point like rat-tail file.
156. Sacrificial Knives: 4: obsidian: very sharp.
157. Masked Warrior: Aztec: clay: arms and legs wanting: 2x1 2 in.
158. Flint Dagger: 8 1-2 in. long: 2 1-2 wide at butt: excavated at Tula: 1885.
159. Head: Totonac: 3x2 1-2x1 in.: porphyry: expression of pain.
160. Macana Teeth: obsidian: 7: 3 in. square each.
161. Mortar: lava and lime mingled: Temescal at Itzapalapan ruins.
162. Unfinished Ornaments: 2 tentetl: one ear-ring or "sleeve button:" Labrets of Crystal.
163. Copper Arrowhead: point bent: claimed found in cypress trunk Chepultepec.
164. Chocolate Crinkling Cup: cocoanut shell *Grecque* carvings: Orizaba.
165. Serpent fighting Tortoise: black ware from Nonoalco, and therefore open to suspicion.
166. Cast: plaster: ideographs: from Palenque

Besides the above I have perhaps 150 articles—heads, "candle sticks," little gods, etc., gathered by the writer and his family during visits to Cholula and Teotihuacan recently—and which have not yet been labeled or classified. I have also many imitations or frauds.

In a recent number of *Science*, Mr. Holmes has written a timely article on "The trade in Spurious Mexican Antiquities." I can give some corroborative evidence, having accidentally stumbled upon the factory on a recent trip to the Pyramids of San Juan Teotihuacan.

Yours hastily,

W. W. BLAKE.

Editorial.

THE PICTURED CAVE OF WEST SALEM.

A NOVEL INTERPRETATION.

We give below a translation by W. D. Hampton, Mount Victory, Ohio, of the pictured cave at West Salem. We have received guesses of this kind before; guesses at the meaning of the various tablets; guesses at the meaning of the inscribed figures upon rocks; guesses at the meaning of symbols of various kinds. This one is more elaborate, and complete than the most of them and we therefore present it with the cuts, but make several enquiries in connection with it.

Translation by W. C. Hampton, Mt. Victory, Ohio: A party of twelve warriors encamped around this cave, and built a fire within. This was a war party, one of whom was armed with a bow and arrows, another had a bow, arrows, and war club; one was armed with a gun, and five had long lances or spears. The remaining four were prisoners of war, one of whom was a leader or chieftain.

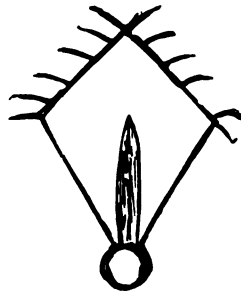


Fig. 14.

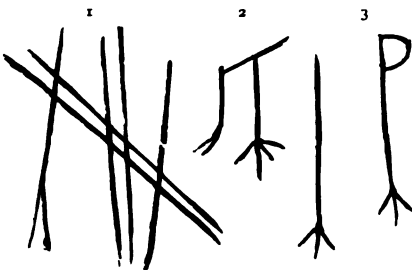


Fig. 15.

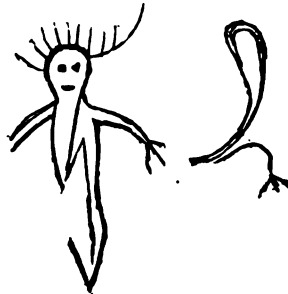


Fig. 16.

EXPLANATION:—1, See cave with fire within, and 12 marks around it for the 12 warriors, who also represented by 12 implements of war (2) The figure of the man holding his arrow in his left hand; near him is a war club, bow and arrow for another man and each one of the other implements representing a man, making twelve in all, corresponding to the marks or record around the cave.

(3), The triumphal arch of spears, represent conquest, an emblem used by the Romans and most other semi-savage nations, and to another spear is attached a hand-cold like that used on a sword, which I presume denotes authority or leadership. I think that this is an Indian Record and was made after their acquaintance with the whites, from the sword handle to the spear.

1. It will be noticed that the conventional symbol in Fig. 14,

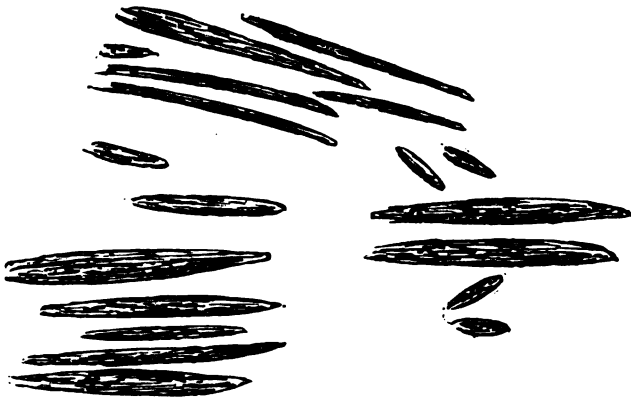


Fig. 17.

is here translated a fire within a cave. This symbol was interpreted by Rev. Mr. Brown, the first discoverer of the cave, as perhaps an altar with its ascending flames. In confirmation of this the marks in Fig. 17 are also called flames or possibly ears of corn.

As to these last we would say that they were probably merely creases made in the rock by the process of sharpening arrows and

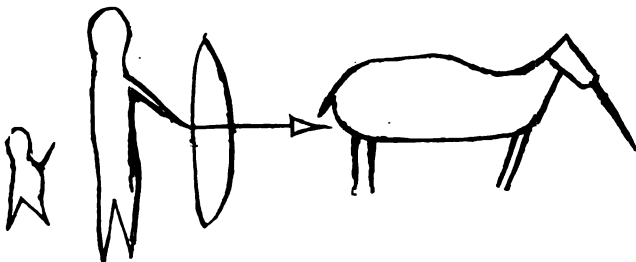


Fig. 18.

were not flames at all; but as to the first we are in doubt, flame is undoubtedly signified but whether camp fire or an altar or the sun was signified by it is the question; on this we ask information.

2. It is said that there are four prisoners of war in the party and twelve implements of war indicated by the marks in Fig. 15. Two of these marks are, however, said by the same writer to represent an arch and one a spear with a handle. We would ask if these marks are used in a double sense. The triumphal arch of in Fig. 15 (2) resembles to our eyes a series of turkey legs as

sword or spear (3) with a handle is nothing but a conventional sign which is very common. The discoverer of the cave thought that the next figure represented a plumed warrior with a war club near his left hand and his interpretation seems reasonable. Fig. 16. His opinion was that the long marks represented weapons, spears and arrows.

3- It is said of this whole inscription that it represents a war party armed with a bow and arrow and that these five warriors



Fig. 19.

armed with lances had four prisoners; while one had a war club and one a gun. We notice, however, in Fig. 18, that a party is pictured in the act of hunting or shooting an animal like a deer and that the attitudes all represent a hunting scene. One of the hunters has a little boy with him who seems to be very much astonished at

at the appearance of the animal and at the father's success in shooting the animal. We ask the question whether the picture was not intended as a record of a hunting expedition and the marks over the fire may not be explained as 12 days and the marks which look like turkey legs do represent the number of fowls which were shot.

4- It will be noticed that several animals are represented in the picture, some of them

apparently with arrows sticking in their sides, others as lolling with their tongues protruding from their mouths, and others in various attitudes and that human forms are associated with the figures in various attitudes and shapes. In reference to each individual it is not

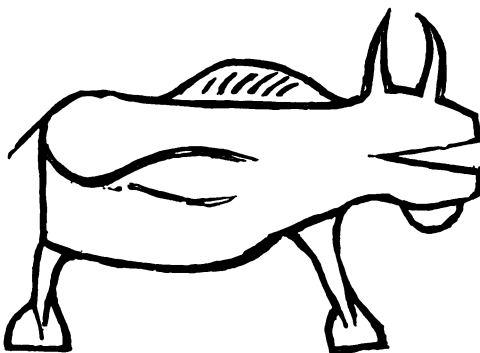


Fig. 20.

easy to give an interpretation and yet we think that our readers will see the reasonableness of this view. We call attention to Fig. 19.—Rev. Mr. Brown considers that it represents a wounded animal with the arrow near the wound. This is the conventional figure of the arrow, and the interpretation is probably correct. We notice next in Fig. 20, that the buffalo is represented with mouth open and tail as if in motion as in fly time. The tail being represented three times. It

would seem from this that it was hot weather and the animal was very much affected by the heat. Another buffalo in the picture is however not so affected. This animal has the hump and horns of the buffalo but has no hoofs as in the preceding figure.

As to the animals which are represented by this hunting scene there may be a difference of opinion.

There are fifteen animals in the cave. These are named by Mr.

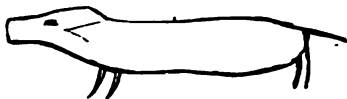


Fig. 21.

Brown as follows: the deer, the elk, the bear, the wild cat, the rabbit, the badger, the otter, two buffalo, the mastodon, hippopotamus and the bird. We have seen that

two of these may be easily recognized, namely: the deer and the buffalo. The elk, Fig. 19, is however not so easily recognized, though it is not difficult to distinguish it from the deer. Fig. 18. The badger is, however, plain, Fig. 21, the peculiar form of the head being quite characteristic. The bear also may be seen, though its figure is very rudely drawn. As to the mastodon and hippopotamus, Figs. 23 and 24, we think that Mr. Brown drew considerably on his imagination, and yet the figures will admit of almost any interpretation. Mr. Brown also thought he recognized the canoe among the inscriptions, though it is more likely that the crescent of the moon and the thunder bird is intended. Upon the whole we should conclude that the pictured cave at West Salem was intended to represent a

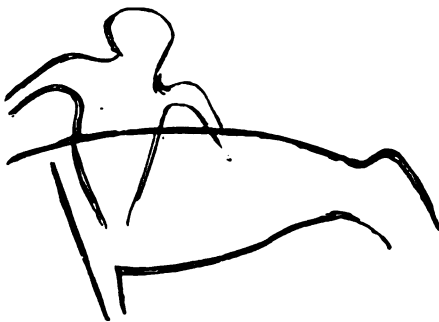


Fig. 23.

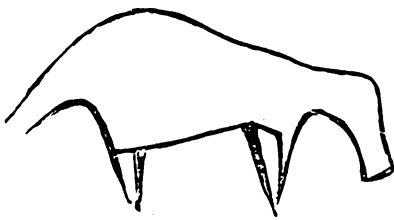


Fig. 24.

hunting scene, and that it was made by modern Indians. In this we agree with our correspondent and would refer to the symbols for speech which are seen near the mouths of several of the animals in the picture. We refer to the interpretation of our correspondent in order that others may

be led to study the conventional signs which are most common and that by the mutual aid which we may give one another that the clue to the correct interpretation of the pictorial signs may be gained and animals among the inscriptions and mounds.

THE SERPENT EFFIGY IN WISCONSIN.

The editor of this journal has taken during the present season several exploring trips to different groups of emblematic mounds in Wisconsin. One trip was in the direction of Green Lake in search of the elephant effigy concerning which Mr. T. H. Wise and the President of the Davenport Academy of Sciences have spoken somewhat confidently. The result of the trip was to disprove the existence of any such effigy. The place was reached and the very spot examined but the effigy which was called the elephant was entirely obliterated, not the least resemblance to an elephant could be traced. The gentleman accompanying us also informs us that this was the condition of the mound when Mr. Wise made his report concerning it. It now appears that the effigy was never plotted or measured or even drawn on paper, but the report stated from the expression of Mr. Mitchell, who lives at Green Lake and who is a diligent explorer and collector of relics, that in his opinion the effigy originally represented the elephant.

The expedition resulted in other discoveries and concerning these we would speak. Before reaching the spot where the effigy was supposed to be situated we visited a group of mounds in the same county but some ten miles east. Near Utley's Quarries, Green Co., we found a number of interesting effigies. Among them two massive panthers, two buffaloes in the attitude of running, one immense cougar with tail raised as if threatening an attack, but more important than all, two or three serpent effigies. Two of the serpent effigies are situated on the low land, just below the cougar. They run across a swail, but mount to the summit of a natural ridge, the ridge forming the body of the serpent but the artificial part being the tail. The peculiarity of the effigies is that they correspond to the serpentine character of the stream which they border. Each consists in part of a natural formation and in part of artificial effigies, the natural and the artificial combining to bring out the serpent shape. The stream itself is very tortuous and the ridge which borders it is also strangely contorted, and it is plain that the two suggested the idea of the serpent, but the artificial part brings out the shape, the folds of the serpent and the very rattles being exhibited by it but the body blends with the natural ridge so as to make the two seem like one effigy.

The cougar which crowns the summit of an isolated knoll or small "drümmel," overlooks these serpent effigies, and presents the same "double" form, the ridge or knoll being completely covered by the body, but the tail running out to the bluff, on an elevated ridge which connects the two. The cougar is so large that it would escape ordinary observation, and would be mistaken for a

natural formation, but when seen it becomes the more imposing from its elevation above the surrounding land.

Near these effigies is an enclosure, the wall of which presents also the serpent effigy. It is an enclosure 60x120 feet in diameter, with an opening toward a mineral spring called Gleason's spring. It is situated on a bluff, about 50 feet high, the edge of the bluff being very tortuous, and probably suggesting the effigy as the folds of the serpent and the line of the bluff correspond. The wall around the enclosure is very low, a slight elevation above the ground but presents in its form, all the folds of a serpent, the head and tail of the reptile serving as the guard for the entrance way or opening. In measuring the folds of this serpent effigy, we discovered a remarkable uniformity, the distance between each bend being about 23 feet. The effigy resembles the well known serpent ring which was seen by Stephens on the wall of the so-called gymnasium at Chichen Itza, but differs from it in that it is single and not double. We have discovered elsewhere in the state serpent effigies, one near Mayville is formed by a natural ridge which had been modified by art. This was made to serve as a guard to a large plat of garden beds, which may be seen close by the ridge. Here we have the same effigy, but it is made to protect an enclosure, exactly as the snake effigy protects the enclosures in Ohio. The wall is not so massive as those around the Ohio enclosures, but it corresponds in size and distinctness with the emblematic mounds, and may be regarded as intended to represent the same object, and probably originated from the same superstition. It is another evidence, of the extent of serpent in America.

The locality where these effigies are found is remarkable for several reasons. There is a spring in the neighborhood called Bishop's spring, which rises out of the high ground and then disappears, but issues from the rocks below the bluffs, as a wide and vigorous stream. On this stream, is the serpent effigy. Gleason's spring issues from another bluff. These are limestone bluffs. Opposite them is a lofty precipice, which is formed by a granite column which projects above the valley, the only granite bluff to be found in the region. The natural and artificial features of the scene make it worthy of a visit from archæologists and scientists generally.

NOTES ON EUROPEAN ARCHÆOLOGY.

BY HENRY PHILLIPS, JR.

DR. P. ADALBERT DUNGER contributes to the *Mittheilungen* of the *Anthrop. Gesellschaft in Wien*, XV, 2, a paper on the tumuli near Kilb and Mank, in Niederösterreich, about 75 in number. He had opened 44 of the series and found in 14 traces of a construction of stone, in others only earth. Some indications of *cremation* were also discovered, as well as fragments of pottery, iron nails, and objects of bone, glass &c.; also some bronze coins of the reigns from Claudius to Hadrian.

DR. JOSEF SZOMBATHY made some remarks on the *Technique* displayed on Prehistoric pottery.

DR. VID VULETICH VUKASOVITCH made a communication on the remains in the island of Braçe (Bol), in Dalmatia. Tumuli had been examined, and among other objects found, was a gigantic stone crocodile, provided with ears, according to some mythological superstition.

DR. JOSEF SZOMBATHY made a communication on a find of Ring-money in Hungary, at Maehren, which is now in the Hof-museum; some of which are very finely worked.

DR. MICHAEL HABERLAND made a communication on the extent and significance of the practice of Tattooing.

DR. MORITZ HOERNES made a communication on some recent finds of Greek remains at Keros and at Alpheus, in the bed of the latter river. At the former, stone figures were discovered, at the latter, a fragment of a bronze corselet, on which were represented human figures and bulls of the most archaic type. The hair of the men and women is braided in an arrangement similar to that seen on the Assyrian sculptures.

A NUMBER of cave dwellings now exist near Langenstein, in Saxony, inhabited for over thirty years. This is a curious instance of the survival of the "old in the new."—*Nature* 848, p. 303.

PROF. AUGUST THIERSCH contributes a paper to the *Corr. Blatt der Deutsch. Anthropol. Gesellschaft*, (XVIII, 1 and 2,) on the late excavations at Kempten, to which is added a plan of the village and a sketch of the localities in which the explorations have been carried on. The remains are of a Roman period.

PROF. CARL JMASKA contributes to the same periodical a notice of a Jadeite axe found in Maehren, of which he is the discoverer and owner. It was originally in the mineralogical collection of Martin Kreky, and after his death came into the possession of Dr. H. Remes, where it was discovered by Dr. Maska to be of artificial origin. Microscopic examination shows the axe to be of the same substance as the Swiss, German, Italian, and some of the French jadeite implements.

DR. H. SCHAAFHAUSEN contributes a paper on the development of the human handwork, and the influence of material upon the Art-form, going at some length into these interesting subjects.

DR. C. MEHLIS contributes a paper on the date of the building of the Middle-Rhenish Ring-Walls.

DR. FRED. LOSCH contributes to the *Wuert. Vierteljahresheft* a paper on

Runes is influenced by the individual act of each stone cutter, thus producing many variants.—1896, I. II.

DR. LANGE contributes to the same publication a paper on the grave-finds at Allmenningen in five graves that were explored there were found bones, swords, one and two eights, lance points, pikes, flint, collars with glass beads, knives and a silver ring from a child's grave.—1896, I. II. III.

DR. A. MOWBRAY has a paper in the *Neues Lusatrisches Magazin*, I. XI, p. 79, on the prehistoric antiquities of the Oberlausitz and their places of finding.

DR. PAUL ZACHARSKY contributes to the *Mit. des Vereins fuer Erdkunde Halle* I. 3, 1896, p. 39 a paper on the last cave dwellers in Saxony, in which he gives an account of a dozen caves near Halberstadt which had been dwelt in until quite a recent period.

THE Finnno-Ugric Society of Helsingfors has just issued the first number of its journal, a handsome two, with illustrations. Among the papers which it contains are those by Messrs. Aspelin, on the site of ancient Sweden) Heikel, on the construction of the typical Moravian house; Malmf, (on the song of the hero Tichman among the Moravians), and Dr. Donner, (on the prehistoric offering places in the Ural M's). The Secretary contributes an extremely valuable chart showing the expansion and migration of the Finnno-Ugric race in Europe.

NOTES ON AMERICAN ETHNOLOGY.

BY D. G. BRINTON, M. D.

ETHNOLOGY OF VENEZUELA.—The city of Merida, in Venezuela, looks in one direction toward the plains which fringe the borders of lake Maracaybo, and in the opposite quarter toward a series of lofty and rugged mountain ranges, outlying spurs of the great Andean chain. In these mountain fastnesses lurk various remnants of Aboriginal tribes, little removed from the savage condition, and mostly living on the natural products of the soil. A worthy local ethnologist, Señor José Errazo Larrea, has had the happy inspiration to visit and study these *disparate members* of the ancient inhabitants, to map out their localities, to learn their customs, and to obtain vocabularies of their dialects. His complete results have not yet been published, but an extract of them is given by Dr. Ernst, of Caracas, in the *Zeitschrift für Ethnologie*. Señor Larrea cites the names of a great many villages, each having usages and dialectic peculiarities of its own, but is of opinion that all of them present traces of affiliation with the Chibcha stock, that semi-civilized nation which inhabited at the time of the discovery the fertile and auriferous valleys of the ancient Cundinamarca. The total number of inhabitants of part or whole native blood in the department of Merida in the year 1881 was estimated at about 70,000 persons.

TRIBES OF EQUATORIAL BRAZIL.—During a scientific exploration of the territories adjacent to French Guiana, in 1883 and 1884, M. Henri A. Coudreau visited and obtained vocabularies from some heretofore almost unknown tribes. Of these the Tucanos or Dace and the Tarianes or Javis live on the River Uaupes, a continuation of the Rio Negro. In the *Archives de la Société Américaine de France*, Tom. III, pt. 6, a vocabulary of the *Dace*, containing about 350 words, is printed, together with a shorter list of the other dialect named. Their affinities have not yet been studied, but in general phonetic character, as, for instance, in the abundance of vowel sounds, they resemble the Carib and the Tupi between which great linguistic stocks they are geographically situate.

Some special interest attaches to these dialects as the hordes that speak them are by some believed to be descendants of the ancient migratory bands de

scribed as Amazons by the early writers. The real origin of that legend is, however, a striking instance of Prof. Max Müller's theory of the formation of myths from mistaking the meaning of words. The native word *Amazunu*, means a torrent or roaring mass of water, and was applied to the dangerous bore at the mouth of the Amazon. Conveyed to European ears, it became associated with the classic legend of the Amazons, and led to the story of a nation of female warriors on this stream. I am astonished that this simple explanation escaped the acuteness of Von Martius. (Compare his discussion of the subject in his *Ethnog. & Sprach. Amerikas*, Bd. I. s. 729).

HUNTING AND FISHING IMPLEMENTS OF THE FUEGIANS.—From September, 1882 until September 1883 the French government maintained a scientific corps of observation close to Cape Horn, within the territory occupied by the Yaghan Indians. Dr. Hyades, the surgeon of the corps, interested himself in their study and especially in their methods of procuring food. This was principally by hunting and fishing, and to aid them in these pursuits they had devised a variety of ingenious primitive implements. These are described with numerous illustrations in the *Revue d' Ethnographie*, Tome IV, No. VI. They consist of baskets, lines, spears, harpoons, arrows with stone or bone heads, etc. Traps and snares are used to some extent. The fish-hook was probably not known to them, but they catch fish far more rapidly by means of a baited line with a slip-noose at the end of it, than the European sailors can with the best made hooks. The statement of Darwin and Fitzroy that the women are forced to enter the cold water at all seasons to collect sea-urchins and crabs is formally denied. Indeed, Dr. Hyades' article leaves the impression that these tribes, however wretched, are not so black as they have been painted.

THE GUAYMI INDIANS.—All antiquaries are familiar with the little gold images which have been disinterred from the graves of Chiriqui, in the state of Veraguas, Central America. They are remarkable for their delicate designs in very low relief, produced by hammering gold threads into a background of the same metal. Some years ago—about 1857-8, large numbers of them were obtained from the *Huacas*, or ancient sepulchral tumuli, near the shores of the Gulf of Chiriqui. As the Gulf was surrounded by several tribes of different linguistic affinities, it has remained an open question as to which of these should be regarded as the descendants of the manufacturers of these interesting relics. The question now seems to be decided by the investigations of the well known traveler and ethnologist, M. Alphonse Pinart. In a communication he has recently published in the *Bulletin de la Société de Géographie de Paris*, he narrates the incidents of a journey he accomplished from Chiriqui Gulf on the north, over the central Sierra, to the shores of the Pacific on the south. In this region the natives are still largely in a wild state, and it was only by extraordinary exertions and at considerable peril that he effected the transit. Most of the mountain tribes belong to the Guaymis, and M. Pinart believes that they originally dwelt toward the shore, and constructed the *huacas* which have preserved the golden images. This seems established by the presence of just such figurines among them at this day, but which they no longer bury with the dead. He did not learn that they are actually manufactured, but it is probable that they are to a limited extent. He gives many interesting particulars of their mode of life.

THE EAST GREENLAND ESKIMOS.—It is rare nowadays that a native American tribe can be found, no members of whom have encountered a white man. But such was the good fortune of lieutenant Holm, when in the summer of 1884 he explored the eastern coast of Greenland in command of an expedition sent out by the Danish government. He made his headquarters for the summer months at a village called *Aqmagssalik*, whose inhabitants were totally unacquainted with European arts and in fact had never heard of the white race. The only elements in their culture which could be traced to a foreign source were a few implements of iron which they had obtained by barter with the Eskimo further to the west. They knew nothing of firearms, their weapons being harpoons and bows and arrows, the shafts pointed with sharpened bones. In all the native arts they were superior to those of their nation who had been

in contact with European traders. Lieut. Holm brought back with him numerous specimens of these native products, and this winter this valuable collection has been on exhibition in Copenhagen.

ARTIFICIAL DEFORMITIES OF THE CRANIUM IN AMERICA.—An extraordinary thesis has lately been maintained with a considerable display of learning by Señor *Juan Ignacio de Armas*, of Havana, in a brochure entitled *Les Crânes Dits Déformés*. He denies flatly that there is any "historic, scientific or rational basis" for the oft-repeated assertion that the American Indians, "in any of their tribes, resorted to artificial means to flatten or otherwise alter the natural shape of the heads of their infants." The skulls which are brought forward in numbers to prove the existence of such a habit he asserts are all natural forms, peculiar to the tribes to whom they belonged, and however much they differ from what we choose to call the normal type, they are not deformities but normal growths. Of course, he has to meet and explain the numerous statements of travelers to the contrary, but does so without hesitation and with great courage. That he has proved his thesis to the satisfaction of the craniologists cannot be said, but he has strength enough in some of his criticisms to warn anatomists from admitting too hastily that all the cranial forms that err from honest nature's rule are the results of artificial compression. It may be that we have not been willing to allow sufficient latitude to the power of variation in this respect.

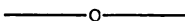
PALEOLITHIC POTTERY.—The distinction between the Palæolithic and the Neolithic Ages is a real one, and useful in studying the development of man. It is indicated not merely by the difference in the technical methods of working stone, but by a series of other characters of art-products. One of these has been generally held to be the total absence of pottery in all palæolithic deposits in both hemispheres. There is not, however, entire unanimity on this point, and lately, before the French Academy of Sciences, two able antiquaries, MM. Martel and De Launay brought forward the details of several finds to show that a rude pottery was manufactured in the area of Belgium as far back as the period of the Cave Bear, which, of course, was in full palæolithic times. The fragments were found in the cavern of Nabrigas, in immediate association with the bones of *Ursus Spelæus*, and, it was alleged, in undisturbed strata. This latter point, on which, of course, the validity of the whole argument rested, was vigorously contested, and remains undecided. In America there have been no discoveries as yet of pottery which we have any reason to assign to the Palæolithic period.

CUP-SHAPED STONES.—Our readers will remember the admirable study printed in the Smithsonian publications by Prof. Charles Rau on "Cup-shaped and other Lapidarian sculpture in America." In the January number of the *Revue d'Anthropologie*, the subject is resumed by the Marquis de Nadaillac. He illustrates and compares the curious artificial cup-shaped depressions found in rocks over a wide area of the world, in Scotland, Germany, and America, in Algeria and in France, and asks whether it is admissible to maintain that such peculiar and laborious monuments could have been the play of idle hands? Whether they must not, on the contrary, be accorded some uniform and fixed significance? and, if this be the case, whether they do not constitute an ethnological link of some kind between the peoples who at some remote era inhabited the regions so widely asunder as those I have noted? To these pregnant inquiries he refrains from offering a positive reply, but the force of his presentation must impress every unbiased student of the subject.

THE STUDY OF MASKS.—The third Annual Report of the Bureau of Ethnology contains an instructive article by Mr. Wm. H. Dall on the manufacture and uses of masks by the American Indians, especially those on the northwest coast. A wider review of the same ethnologic trait has been recently published by the eminent ethnologist, Dr. Richard Andree, of Leipzig, entitled *Die Masken in der Volkskunde*. He describes their use by various nations in religious ceremonies, in war, as shields, for the faces of the dead in certain legal processes, in dances on the scenic stage, and in acting of all kinds. Geographi-

cally they are shown to have been in extensive use in every quarter of the globe, and it is safe to say that their employment springs from psychologic traits common to man as a species, and everywhere recurring in a greater or less degree. The instances he quotes from the American Aborigines are numerous, and in motives akin to those from Asia and Africa.

AMERICAN SOCIETY IN BERLIN.—There is a growing interest in the studies of American Ethnology, Archaeology and Linguistics in Germany. What is wanted in that country of scholars to turn many minds in this direction is some center of associated studies, and some channel through which researches could be promptly published. Both these desiderata are in a fair way of being supplied. Recent letters from Berlin inform me that the project is well under a way of creating a society for the promotion of American investigations and the establishment of a journal, in which such could be published as its main feature. When German speaking Europe embraces among its scholars such distinguished Americanists as Stoll, Streble, Schellhas, Förstemann, Bastian, Müller, Von Tschudi, Reiss, Stolpe, Steffen, Krause, and many others whose names suggest themselves, the only wonder is that such a scheme has not long since been carried out.



NOTES FROM THE FAR EAST.

BY PROF. JOHN AVERY.

ANNAMESE ANCESTRAL WORSHIP.—Mr. James G. Scott, who has given us in his books the best popular accounts of the people of Farther India, describes certain funeral customs of the Annamese. After the death of a person is assured, three sheets of paper and a cloth are placed over the face in order to prevent his soul from being carried off by demons always lurking around. Three grains of rice or, in case of the wealthy, precious stones are put in the mouth, and all teeth that may have fallen out are carefully restored to place. The body is washed in an infusion of flowers or fragrant leaves and dressed in its finest clothes. The nails are cut and placed in a packet beside the head, which must always be placed in a position facing the door. After the corpse has been put into the coffin, the relatives, clad in mourning garments, make offerings to the ancestors and to the deceased, and prostrate themselves four times before him. The body is often kept for days or weeks in the house to give time for the friends to assemble from far and near; and then is carried to the grave with much ceremony, the greater part of which is designed as a safeguard against evil spirits. Those most dreaded are the *Co-hon*, or spirits of persons who have died a violent death and have not enjoyed the rites of sepulture. In order to outwit these malicious beings pieces of sham gold and silver leaf are scattered in the way, which excite their cupidity and delay them while the procession moves on. Strips of paper, bearing the stamp of coins, are also burned or placed in the grave, as a further *douceur* to the spirits to leave the occupant in peace. Families that can afford it erect stone monuments over the graves of their dead, and worship before them on the first and fifteenth days of each month. The greatest pains are taken to propitiate the *Co-hon*, and sheets of paper covered with designs of money, domestic utensils, robes,—in fact anything that can supply the wants or tickle the fancy of these inconvenient visitants—are offered at the grave and elsewhere. Gifts of rice, bananas, and so on, are scattered on the roof of the cottage, and spirits of every name are invited to come and eat. Farmers present offerings to the souls of the former owners of the land in the first three months of the year. If things do not go right, the crops fail, the animals die, or the proprietor himself falls sick, he sends and has a paper house made in exact imitation of his premises with all their occupants. Then the wizard is summoned, who goes into a trance and becomes possessed by the spirit of the former owner. In this condition he—that is the spirit—consumes enormous quantities of raw fowl and wine, and is

THE AMERICAN LITERATURE

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been fully treated by others. Within the limits named, a list of 34 languages or dialects is given, of which brief grammatical sketches are subjoined. In the same region are found limited areas of Polynesian speech, planted, doubtless, by immigrants or castaways from the eastern Pacific. The remarkable tendency of the languages of this region to divide into dialects is illustrated by the fact that on Vanua Laya, one of the Banks' Group, an island only 15 miles in length, there were formerly recognized 15 distinct dialects. The author's view of the Melanesian languages, which this book is designed in some degree to support, is that they are homogeneous and belong to a common stock with the languages of the Malay Archipelago and of Polynesia, standing to one another much in the same relation as the main branches of the Indo-European family. The Australian tongues are not brought into the same group. It will be observed that this theory is opposed to the one generally held, namely, that the Melanesian or Papuan languages are radically distinct from Malay speech on the one side and Polynesian speech on the other; and that whatever Malay or Polynesian elements are discoverable in the tongues of the central region are there by borrowing. In support of his position Mr. Codrington arranges the evidence under the three heads, Vocabulary, Grammar, and Phonology. He compares 70 words in 40 languages of Melanesia, and these with Malayan words collected by Mr. Wallace. The author's notes on each of the words compared are very instructive. Next follows a brief comparative grammar, which puts the matter in a nutshell; then a discussion of phonetics; and finally, the separate grammars in outline. Of the convenience of the work in bringing into focus the linguistic features of a wide field one cannot say too much in praise.

A fact which has prejudiced many students against a relationship between the Malayan, Melanesian, and Polynesian speech is a supposed marked difference of race—especially as indicated by color, the Malays being yellow, the Melanesians black, and the Polynesians light brown; but Mr. Codrington assures us that this feature has been somewhat over estimated, there being a great variety of color in each of the three regions, due to innumerable inter-crossings. But, to account for what is still an undoubted fact, the author supposes that the islands stretching from the Asiatic continent eastward were first settled by a dark colored, curly haired race, that a white race came in from the continent and took wives from the earlier settlers. The offspring of this union would have lighter complexions than their mothers, but would continue to speak their language. This mixture of race, beginning at the continent and on the island coasts, would gradually spread eastward and into the interior; but the language would always remain, in spite of dialectic variations, essentially that of the primitive inhabitants. A branch of this population, of a certain grade of color, might go far away where frequent communication with the early home would be impossible, and there in their isolation, maintaining the same physical type, would develop new dialects and a different civilization. At the same time a darker tint of skin would here and there betray their maternal ancestry. One difficulty that we have with this theory is that the superior—for it is fair to assume this—incoming people is represented as giving up its language in favor of the inferior race; but history teaches us that the reverse has usually been the case, even when the higher race is greatly inferior in numbers. As an illustration one thinks of the Aryan invaders of India, whose language swallowed a host of barbarous idioms, and whose civilization became the norm for the whole land. Still, one must not speak too dogmatically on such a subject. The relations of races on the islands of the Pacific present some of the most puzzling questions of ethnology, and we may well be content to defer fixed conclusions, pending more thorough study of the field, of which the present work is one of the most hopeful signs.

LITERARY AND ARCHÆOLOGICAL NOTES.

BY THE EDITOR-IN-CHIEF.

AN IMPORTANT FIND.—A farmer in Pike County, Ill., who has been annoyed by mounds, as many farmers are, while plowing down one of them, recently, struck some thing that injured the point of his plow, and resolved to

remove the obstacle. Commencing to dig, he soon came to a large flat slab of limestone, which on being removed, revealed a vault in which lay the dust of a skeleton. In this vault was an enormous stone axe weighing nearly 15 pounds, a large number of arrow and spear points, and a copper vessel capable of holding nearly two quarts. Wrapped around the vessel was a mass of woven fabric, of differing material. The vessel has a nicely fitted cover, and on the top of the cover is riveted a bent piece of copper, in which is a stout copper ring. The vessel contained three curious stones, highly polished, one bluish like opal, one reddish like jasper, and one dark of obsidian. The stones were nearly egg shape, being pointed at each end. Digging farther down he found at the base of the mound, another structure of stone, containing a skeleton and the following implements: a stone pipe with a human face carved upon it; a copper axe weighing nearly a pound; a copper spear nearly a foot in length and one inch broad; a copper breastplate; a string of 86 copper beads, and a curious copper ornament, resembling the singular bone found only in the meadow coon, also an amulet of stone, representing some four-legged animal, also a number of stones, wrought for various purposes. The specimens, over five hundred in number, were secured by Mr. William Mc Adams in Alton, Illinois, and cover a large table in his museum.

PIPES AND MOUNDS.—We referred in our Jan. number, while making a review of the year, to certain relics which had been sent out from Davenport by Rev. Mr. Gass. These relics proved to be fraudulent objects made from marble, gathered at second hand from a person known to Mr. Gass, and sent to him as genuine mound-builders relics. He says, "The pipes are very rare and only found in the Mississippi valley. Our Academy pays for such pipes from ten to fifteen dollars." These are new facts and speak more in reference to the genuineness or unguineness of the elephant pipes than any amount of argument can. Mr. Putnam intimates that there are elephant mounds at Green Lake, Wisconsin, and near Red Wing, Minnesota, but he has made no measurements and secured no surveys. We should say that it would be a better argument, if such a survey could be secured and the report of it published by the society in the name of some reliable county surveyor or civil engineer. It would cost less than to publish so much material, which at the best amounts to only individual opinion and brings out no new facts.

ANCIENT POTTERY OF THE MISSISSIPPI VALLEY.—The article by Mr. W. H. Holmes in the proceedings of the Davenport Academy of Science, (Vol. IV, 1882-1884) is worth reading. He says "These articles in clay afford an index of the grade of culture reached by the pre-historic races." "As indicated by decided family resemblance, the wares of this group extend over the states of Missouri, Arkansas, Tennessee, and cover large portions of Mississippi, Kentucky and Illinois, and reach somewhat into Iowa, Indiana, Louisiana, and Texas."

This is a broad field to embrace, and we are inclined to doubt whether the culture of this region was so homogeneous, as the writer makes it. The earthworks of the region have been divided into four or five classes, and we believe that there is a correlation, between them and the culture which prevailed. The art and architecture correspond; symbolism and ornamentation are also correlated. If Mr. Holmes would take these points and carry the analysis farther, so as to identify each style of ornamentation, with different geographical districts, he would see that the grades of culture are more closely divided than he has shown in this grouping of the pottery, of all the districts under one class.

THE BLOOD COVENANT.—Rev. H. Clay Trumbull, D. D. has written a book based he claims on a discovery in ethnology, about which the theologians are making considerable ado. He says: that this was the primitive thought in the primitive religions, of all the world. "The independent existence of this right of blood brotherhood of blood friendship, among the three great primitive divisions of the race, the Semitic, Hamitic, and the Japhetic; and that, in Asia, Africa, Europe, and America, and the islands of the sea, blood giving was life giving. Life giving was love showing. Love showing was heart yearning after union in love and in life, and in

blood and in very being." Again "The mode of intertransference of blood with all that it carries has been deemed practicable, alike by the way of lips, and by way of the open and interflowing veins." Again, "A covenant of blood, a covenant made by the intercommingling of blood has been recognized as the closest, holiest and the most indissoluble compact conceivable. Again, "We may fairly look at every bible reference to blood in the light of primitive customs known to have prevailed in the days of bible writing." Again, "In all the outside religions of the world, where men reach out after a divine.—Human interunion, through substitute blood, and so he is supposed to have the nature of the gods with whom he thus covenants and interunites."

This is an ingenious theory, but we doubt if it can be proven. There may have been covenants of this kind, in historic countries, but it is not a pre-historic or proto-historic custom. The custom which was common in America was to take the flesh of captives and eat that, and the idea was that if the flesh was eaten the nature or spirit of the individual would be secured. The heart was the especial part which was eaten as this was supposed to contain the real life and spirit. There was no such thing as brotherhood, sealed by the commingling of blood, not in America that we can learn about. Would Mr. Trumbull say, that the communion which is the most sacred rite of the Christian church, was based on the savage custom of eating the flesh of captives taken in war, innocent victims as they are? Would he not be shocked at Mr. Dall's intimation to that effect* when he says, "That the practice or cannibalism was not a mere devotion to a diet of human flesh, but a rite or observance of a superstitious or religious character, not so far removed from the Anthropomorphism which in the middle ages, claimed for the chief Christian rite 'the real presence of body and blood' of the victim sacrificed, for the welfare of the race." We question very much whether a Jew ever thought of the blood intercommingling, when he offered his sacrifices. The Jewish custom is really more akin to the pagan custom, described by Homer, in which the pieces of the sacrifice are divided; one part devoted to the divinity, and the other eaten by the human worshiper. The Abrahamic sacrifice is certainly more related to this than to any blood covenant. If the blood covenant is the idea, why not cannibalism also. There is more analogy in the eating of the sacrifice, to this than can be found in any blood commingling.

THE HARE IN EGYPT.—The last number of the proceedings of the Society of Biblical Archeology (Apr. 6, 1886) contains an article by Mr. P. le Page Renouf, on "The myth of Osiris Neferu," which is calculated to throw fresh light upon an interesting question in American mythology. He says, "The Algonkins were never tired of repeating the story of 'Michabo,' the great hare, the impersonation of Light, a hero of the Dawn, and the highest deity of these tribes. Why should light or the sun be personified by the hare? Is it a case of totemism? And, if so, why should totemism take this form? It will be shown that the ancient Egyptians had myths very similar, and that our knowledge enables us to see clearly into the origin of these myths. "A Hare headed divinity is seen in the temple Dendera. The same Hare-headed god appears in the 'Book of the Dead.' "The city Unnut, was the Metropolis of the fifteenth nome of Upper Egypt, that of the hero, *Un* call by the Greeks "Hermopolites." "The name Unnu, neferu, signifies "The Splendid or Glorious Hare." "Unnu, the appellation of a hare, signifies 'a springer,' 'a leaper.' From this the writer concludes that the hare was the symbol of the rising sun, and was applied to Osiris or the sun. He says, "It is now, I trust, clear enough why *Unnu* should be an appropriate appellation of the rising sun who springs forth in glory and triumph." "In Shelley's *Prometheus*, 'The Hours were hounds, which chased the day like a wounded deer.'"

We suggest that the hare in Egypt was originally a totem, the tribal sign of the thirteenth nome," but that it was subsequently appropriated by the worshippers of Osiris. We have in this country the figure of the hare, as a mere emblem, probably totem but the same figure subsequently becomes a symbol. The hare is first found in the effigy mounds but is at last placed upon the sculptured facades. In the earth effigy he is a totem, in the stone ornament he is a sun-symbol.

*See also *Pre-historic America*, by Marquis de Nadaillac, edited by Wm. H. Dall, page 64:

SERPENT WORSHIP IN AFRICA.—The Andover Review for June 1886, contains an interesting article on, "Native Worship in South Africa," by the Missionary Rev. J. Tyler, from which we quote the following: "It is often said, the natives of South Africa are snake-worshippers. This is not strictly true. *Amatongo* (ancestral spirits) are the objects of their worship. When the body ceases to exist, the *Umoya* (soul or spirit) is supposed to take up its abode in a snake, or to assume the form of this reptile. Some speak of serpents as representatives of the spirits. The soul of a king or any distinguished person is represented by the *Imamba*, a fierce and venomous serpent, surpassed only by the python in size and length. Common people assume the form of the *Umhlicazi*, an innocuous and quiet serpent. In such forms spirits of departed relatives visit the living at their kraals, or villages; to them especially in dreams. 'Dreams never lie' is a Zulu proverb, therefore the messages brought by the spirits are always credited. To kill an *Itongo*, ancestral spirit, or rather its serpent representative, is a crime to be atoned for immediately lest some dire calamity result."

BOOK REVIEWS.

Ein Herbstausflug nach Siebenbürgen, von Dr. WM. LAUSER, Wien. 8vo., pp. 68, 1886, Carl Graeser.

A beautiful and interesting volume with 23 illustrations, well worthy of the letter press. The chapter devoted to the last resting place of the supposed remains of the hero-poet *Petoefi* is of especial interest from a new light thrown on the mysterious fate of that illustrious victim of tyranny. H. P. Jr.

Guatemala. Reisen und Schilderungen aus den Jahren 1878-83. VON OTTO STOLL, M. D. 8vo., pp. 518, illustrated. Leipzig, F. A. Brockhaus, 1886.

Dr. Otto Stoll is already favorably known to students of American subjects by his small work on the ethnography of Guatemala, (*Zur Ethnographie der Republik Guatemala*; Zurich 1884.) In the volume before us he presents a historical sketch of his five years' residence and travels in that country, interspersed with a very large amount of information of all kinds with reference to the state, its physical geography, antiquities, customs, resources, etc. Not only did he utilize the exceptional facilities offered by the vocation of a physician to make himself acquainted with the intimate life of the people, but he gave particular attention to the dialects of the natives. He is probably the only person in Europe who has a critical knowledge of the Cakchiquel language, and it is to be hoped that the dictionary he has prepared of it will ere long be printed.

His work gives full and reliable information of the economical resources of the state, its agricultural capacities and mineral wealth. Two maps are appended, one geographical the other ethnological. There are also several statistical appendices relating to the population, traffic and meteorology of the Republic, in fine, it is the most complete description of the country in all its relations which has yet appeared and should be on the shelves of all our important libraries, D. G. B.

Proceedings of the American Philosophical Society April 1883,

This quarterly report contains the following titles, on ethnology notes on the Mongue—an extinct dialect of Nicaragua, by Dr. D. G. Brinton. Remarks on Indian tribal names, by Dr. W. J. Hoffman, and on the "Hebrew word *El-Shadi*, by Prof. J. P. Leslie."

From Acadia to Machpelah, or the Homes and Journeying of Abraham, by the REV. JAMES MARSHALL THOMPSON, Philadelphia Presbyterian Board of Publication.

The contributors to the Oriental department of the American Antiquarian are one after another becoming the authors of books. Rev. Mr. Fradenburgh and Rev. Mr. Thompson each having produced a book during the past few months. Prof. A. H. Sayce, D. D., and Rev. S. Merrill, D. D. were well known before they began to write for the Journal. We have now, Rev. O. D. Miller, and Prof. John Avery, who should by good rights bring out a vol-

ume, each upon his own specialty. This little volume is very interesting. It is written in a popular style, is splendidly printed, nicely illustrated and will prove an attractive addition to the mass of Oriental and Biblical literature, which has been so rapidly increasing during the last few years. Our libraries are likely to be filled up with books on the confirmation of scripture. There is no lack of works which illustrate oriental customs and scenes. It is the most popular department of archaeology, at the present.

Elephant Pipes and Inscribed Tablets in the Museum of the Academy of Natural Sciences, Davenport, Iowa, 1896. By CHAS. E. PUTNAM, Pres. of the Society.

This is a republication of the pamphlet, which has been so extensively circulated. It contains as additional material the correspondence and criticisms of scientific journals upon the previous edition of the pamphlet.

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MAGAZINES.—*Journal of Science, Letters, and Art*, a quarterly journal devoted to the advancement of Science, Literature and Art, including Music and the fine arts. Vol. I, No. 4, January to April, 1893. London, William Reeves, 185 Fleet Street.

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Baker, Jones & Co., 1956.

Report of Proceedings of the Numismatic and Antiquarian Society of Philadelphia for the year 1955. Printed for Society, 1956.

Proceedings of the Canadian Institute, Toronto, Vol. III, No. 2, July 1955.
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The Mormon Menace. A discourse before the New West Education Commission on its fifth anniversary at Chicago, Nov. 15, 1885, by George Whitfield Phillips, pastor of Plymouth Church. Worcester, Massachusetts, 1885.

Reminiscences of Early Congregationalism in Iowa, by Julius A. Reed, Grinnell, Iowa, 1885.

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THE TEXTILE ART IN PREHISTORIC ARCHÆOLOGY.

When the ancestors of the human race, far back in the shadows of the past, stepped across the boundary that separates the realm of instinct from the realm of reason, they were already endowed with some of the machinery of civilization. They had, in all probability, acquired the rudiments of language, and in common with the birds and the beasts, possessed considerable skill in certain branches of industry. Our arts of to-day were not yet differentiated, but the germ was there, and from this sprang up first of all, the two great arts, architecture and weaving, which were at a later day destined to pursue such divergent ways. That they did thus arise, is to be inferred from what is known of the nature of man and his environment. His habits were doubtless arboreal, and his dwellings were in the forests that furnished his food. Twigs, vines, leaves, and filaments intertwined in various ways served to shelter him from the elements and from the enemies that beset him.

In time nets, baskets, mats, and coverings for the body were made, and as the ages passed by these developed into the cloths, tapestries, laces, and rich goods of the cultured races of men; these represent the textile art. House-building among such races had, at an early period, gone its separate way.

It requires no argument to show that from the beginning the textile art formed one of the most important human activities, and the story of its development and of its peculiar influence upon other arts merits the closest attention of science.

In our studies of the beginnings of art we can depend upon written records to carry us back but a few thousand years along the pathway of progress, and beyond this we encounter a deep shadow into which archæology seeks to throw a ray of light.

Much can be learned of the character of the earlier stages of our highly-matured arts by a study of the work of the

primitive tribes of to-day. We have thus within our easy reach, illustrations of conditions, processes and results, which along the ancestral lines of our riper civilizations would lie farther back of the founding of the pyramids than that is back of us. But such analogies are not entirely satisfactory. We long for a closer acquaintance with the early forms of art peculiar to those nations that have actually achieved a high grade of culture, and thus we appeal to prehistoric archæology.

The primary failure of the textile art as a historic, or rather a prehistoric record, is the susceptibility of its products to decay. Examples of very archaic work survive to us only by virtue of exceptionally favorable conditions. The fabrics of the Incas, buried in the dry saline sands of the rainless shores of Peru, are, after the lapse of hundreds of years, found to be as fresh-looking as when first wrapped about the bodies of the dead. After the flight of thousands of years, the mummy-wrappings of the ancient Egyptians are equally well preserved, a result attributable to the fact that they had been steeped in balsam and stored in well-built tombs.

Our mound fabrics are in many cases preserved through contact with objects of copper, the salts of which have a tendency to arrest decay, and also through charring, which leaves them, while undisturbed, all but indestructible. The latter method of preservation is finely illustrated by the well-preserved fabrics of the Lake Dwellers of Switzerland, which having fallen into the water when partially consumed were preserved by the deposition of slime.

Again, the fabrics of the North American tribes are made known to us in a way wholly distinct from the preceding. The primitive potter employed woven textures in the manufacture and ornamentation of his wares. In the process, the fabrics were impressed upon the soft clay, and when the vessels were baked the impressions became indelibly fixed. A number of restorations, made by taking casts in clay of these impressions, are given in a paper published in the third annual report of the Bureau of Ethnology. Evidence of the practice of the art by many ancient nations is also preserved to us by such implements of weaving as happen to be of enduring materials. Spindle whorls in clay and stone are perhaps the most common of these relics. On the site of ancient Troy, Schliemann obtained 22,000 specimens and some of our American sites are hardly less prolific. These objects tell us definitely of the practice of the art, but give little insight into the character of the products, for woven fabrics, as to quality, depend but little upon the character of the machinery employed.

It happens, however, that these and kindred means are not the only ones through which a knowledge of prehistoric fabrics can be gained. The textile art is abundantly reflected in a number of associated arts whose products were embodied in more enduring

materials. The influence of this art upon other arts has been exerted chiefly in two directions, first by giving form to their various products, and, second, by furnishing them with decorations.

In the matter of form this influence is somewhat limited, as textile construction does not usually give rise to those rigid shapes that tend to impose themselves upon materials themselves rigid. Basketry is the most notable exception.

It is true that the primitive builder employed textile combinations in constructing his dwellings, and that many features of these are impressed upon architectural decoration and through it upon the decoration of other arts, but basketry occupies a wholly distinct field; it is almost universally practiced by primitive peoples, and its products are so intimately associated with the various other arts employed in domestic work that its influence is exceptionally strong. In the earlier periods one of its more nearly related associates was the ceramic art, which seems to have been, as it were, a younger sister whose youth and plastic nature made it easy to give shape to her features. There is not a group of pottery within my knowledge that does not furnish examples demonstrating the correctness of this observation.

Ancient pueblo peoples were masters in the basket-making art, as are also most of the living races of the Pacific slope, and their pottery in many ways shows traces of the textile influence. One



Fig. 1.—Modern pueblo basket.

example will serve to exemplify this. Fig. 1 represents a pueblo basket of modern make, but in all probability of archaic type. It is drawn one-third the actual size, and serves to illustrate the form and surface characters of one class of these vessels. Fig. 2 represents an ancient pueblo cup in gray earthenware, which in form, in surface characters, and to some extent in construction, imitates a woven vessel of the variety shown in Fig. 1.

Did we not have these modern baskets to illustrate the textile art of this people, there are hundreds of pieces of ancient pottery that would serve to make clear to us the character of that art at the period when the older pueblos and cliff dwellings now in ruins were teeming with life. The same is true to a less marked degree of the arts of other American races, and it is not unusual to find articles of wood, stone, and metal, whose forms give hints of textile domination.

It is in ornament, however, that the influence of the textile art is most deeply and widely felt, and no single art, ancient or modern, in which men have endeavored to embody elements of beauty, is

without strongly marked traces of its presence. By a study of archaic ornament, therefore, the archæologist may hope to add something to the sum of his knowledge of textiles.

Architecture, by the nature of its construction from geometric



Fig. 2.—Clay cup imitating woven work.

units, also necessarily gives rise to geometrical forms in some respects resembling those produced in fabrics, but this need not lead to confusion as the history of the arts will easily demonstrate that before architecture, as embodied in hewn wood, dressed stones and bricks, had arrived at a stage capable of influencing decoration, the textile art had occupied the field, and its peculiar

conventionalities were disseminated throughout the whole range of the embellishing arts; architecture itself, when it reached the proper stage, did not escape its influence. Examples may be given to enforce these statements, and in doing this we need not go beyond our own country.

Perhaps no American nation had in pre-Columbian times reached a grade of skill equal to that of Peru, at least it happens that there fabrics of a very high class are exceptionally well preserved; but, aside from this, her art in other materials bears evidence of the perfection of her textile products. The conventional decorations upon wood, clay, stone, and metal, are often of textile extraction. The forms of men, monkeys, birds, and fish, recurring again and again in all branches of art, show decided traces of the peculiar angularity imposed by previous treatment in the loom.



Fig. 3.—Ornament of textile origin painted upon an ancient pueblo vase.

Architecture could also be made to contribute to our fund of information, as we shall see from an example taken from the "Hall of Arabesques" at Chimu and shown in Fig. 4. This charming design is worked out in stucco, and exhibits characters

that could not have arisen in either stucco or stone, but which repeat almost literally the peculiar devices of the native textiles. Throughout Central America and Mexico, where no fabrics are preserved to tell their own story, architecture exhibits conventions



Fig. 4.—Design in stucco exhibiting textile characters. "Hall of the Arabesques," Chimu, Peru.

hardly less textile in their appearance. Fine examples are found in the marvelous ruins of Uxmal and Mitla.

The pueblo art of New Mexico and Arizona is perhaps better suited than any other to illustrate these thoughts, as it belongs to the near past and almost equally to the present, and all the needed elements are available for reference. The native textile art has, without doubt, declined greatly since the advent of the



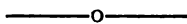
Fig. 5.—Ornament of textile origin painted upon an ancient pueblo vase.

Spanish people, for we find painted upon the ancient pottery of this region designs of great beauty and complexity much superior to anything produced at the present day. The very pleasing design given in Fig. 5 is copied from a large vase made by some

of the older cliff-house peoples. In it we discern all the textile angularity, a certain continuity in the lines, and a consistency in the arrangement of the parts that arises through no other than textile channels. Another example, taken from the upper surface of an ancient vase, is presented in Fig. 3. It, also, is better in design than anything found in modern pueblo work. It was probably copied by the potter from the inner surface of a basket plaque, a form of vessel in use by all the pueblo tribes. The painted figure departs from the geometrical symmetry of the original textile work in some of its details. This is due to the lack of precision characteristic of free-hand delineation where the hand and the eye are not thoroughly trained.

From the examples presented it will be seen that had all traces of American prehistoric textile fabrics been lost, a fair idea of the condition of the art could be obtained by the archæologist from other branches of the art.

W. H. HOLMES.



THE TIBETO-BURMAN GROUP OF LANGUAGES.

FIRST PAPER.

Extending along the northern and north-eastern border of Hindustan and stretching across Farther India into the westernmost province of China, is a group of languages which has been called by recent writers Tibeto-Burman. The name is derived from the two most important and, in geographical situation, most widely separated members of the group.

Some linguistic students are inclined to classify these languages with the Chinese and other monosyllabic tongues of south-eastern Asia, from which, however, they differ in important respects; while others regard them as belonging more properly in the Turanian or Scythian family. In fact, they lie geographically and linguistically between these two great types of speech; and form, so to speak, the step by which we ascend from the lower to the higher stage of development.

Roughly speaking, this linguistic domain extends irregularly from north-west to south-east between the 72d and 102d degrees of east longitude and between the 10th and 35th parallels of north latitude. It is the design of this paper to name and locate the members composing this widely-extended group, and to point out the most prominent features of their structure, which

have led to their being set apart from surrounding languages. Any detailed survey of so broad a field is manifestly out of the question within the limits of these pages.

It should be understood at the outset that we are not here dealing with peoples who, like the Indo-Europeans, belong to the most civilized portion of the race, whose languages can be traced by literary monuments through many centuries of growth and decay; but that we have, for the most part, to do with rude and warring tribes, whose speech possesses neither literature nor so much as written characters, while the two or three peoples that have reached a higher level are still but half civilized. The interest, then, in the study of the Tibeto-Burman languages lies not in the intellectual or political prominence of their speakers, but in their geographical position and the evidence which they can furnish regarding the development of human speech in general; for it must have occurred to the thought of every practiced student of language that in order to trace the growth of signification and form it is not enough to confine one's researches to the highest types of speech, in which the old and the new, the simple and the complex, are mingled in unconscious confusion; but that we must study attentively the lower idioms where, so to speak, one may see men actually engaged in laying the foundation stones of the temple of speech.

Now, if we glance at the map of eastern Asia, we shall see that the region which we have outlined is bounded on the east by the Chinese, the Siamese and other languages of the Mon and Tai groups; on the north by the Mongolian and Tartaric languages of Central Asia, characterized by agglutinative structure; and on the south and west by Aryan languages of inflective type: so that, if it be true, as we hope to show in the sequel, that the groups under review exhibit points of agreement with both the monosyllabic and the agglutinative languages, they will provide an important link in the evidence that the most complex structure was primarily derived from the simplest forms.

In making our survey, two courses are open to us; either we may treat the languages in sub-groups according to mutual agreements in grammar or vocabulary; or we may take them up in geographical order, noting special affinities as they come under our eye. The latter course will be most feasible, since our knowledge of different sections of the field is most unequal; in some we have excellent grammars and dictionaries, in others we have only brief vocabularies, so that any minute classification is of doubtful value. We begin, then, with the Tibetan, which, beyond the snowy range, forms the whole northern border of the group, not only being spoken in Tibet proper, the valley of the Sanpu, but encroaching upon Chinese territory in the east, and overlapping Cashmere and the Panjab in the west. The language has, in turn, been greatly influenced, even within the

political limits of Tibet, by its neighbors, the Chinese on one side, the Indian vernaculars on another, and the Mongolian and Tartaric languages on the third. Owing to the broken nature of the country, Tibetan is spoken in various dialects, of which 15 to 20 are named by recent writers. Diversity of speech is most marked where intercourse between villages is barred for most of the year by snow-clad mountains. This is well illustrated by the little district of Kunawar, on the Panjab frontier, where in a region only 70 miles long by 40 broad, and having a population not exceeding 10,000, only a part of whom are Tibetans, six sub-dialects of Tibetan are said to be spoken. This multitude of dialects may be divided into three groups—eastern, spoken in the province of Khams; central, in the region of Spiti, Tsang, and U; western, heard in Ladak and Lahoul. These differ considerably in spelling, but more in pronunciation; and each retains some feature of primitive usage which has been lost by the others. The speech of central Tibet, in and about the capital city, Lhasa, is regarded as the standard, but has departed farthest from the ancient type.

The literary cultivation of Tibetan began in the first half of the 7th century A. D., when King Srongtsangampo sent a commission to India to learn the Sanskrit language, and to acquaint themselves with the Buddhist literature which it recorded.

By these men the alphabetic characters now current in Tibet were adapted from Indian letters, and the work of translating into their native tongue the teaching of Gautama and his followers was begun. Since that time an extensive body of literature, though mostly of religious contents and stereotyped form, has been produced.

It is stoutly maintained by some writers that Tibetan is a monosyllabic or isolating tongue, like the Chinese; while others as confidently insist that its structure is agglutinative. The question turns upon definitions. What do we mean by a monosyllabic language, and what by an agglutinative one? If we understand by the former, one whose roots, and a great part of whose words, are monosyllables, but which habitually adds to these roots determinative and relational syllables, which do not occur in the language as independent words, the Tibetan must be placed in that class; otherwise we must credit it with that rude form of inflection which we call agglutination.

The Tibetan alphabet, which, like the Sanskrit, is syllabic, has 30 characters, not including the sub-joined vowel-signs. It represents some sounds not found in *devanagari*, and, unlike that, has neither the cerebral row of consonants nor the sonant aspirates. A striking peculiarity of Tibetan words is the frequent occurrence of silent letters, witnesses of a pronunciation long since given up, except here and there in the dialects.

Useful though these letters be as historic finger-posts, point-

ing out the way the language has traveled, they are as much an impertinence in modern Tibetan as are similar letters in English—unless, as sometimes occurs, they serve the purpose of inflection. Plurality is denoted by affixing to the root-word one of several syllables which were originally nouns of multitude, and are now for the most part used independently as such.

The various relations of substantives in the sentence are indicated by added syllables, which, it is easy to see in most cases, have been degraded from independent words into servile particles or affixes.

Adjectives either follow their substantives, in which case they and not their substantives are declined, or they precede them in the genitive case. The language has no possessive or relative pronoun, the genitive of the personal pronoun serving for the former and a participial construction or an independent clause supplying the place of the latter.

The Tibetan verb has a very meagre apparatus of conjugation. It is unable to express either person, number, or voice. It is always used in an impersonal sense, and what we call the subject stands in an oblique case. Thus, while we say "I am struck," or "I strike the boy," a Tibetan says "A striking is to me," or "a striking is to the boy by me." A case of genuine inflection, however, occurs when the principal relations of time—present, past, and future—are to be denoted. This is done in part by change of root-words, as pres. *gtong*, fut. *gtang*; in part by change of prefixed letters, as perf. *bcug*, fut. *gcug*; and in part by the addition of a final *s*, as perf. *btsags*, fut. *btsag*. The consonants of the root also are frequently changed in the several tenses; so aspirates often become surds in the perfect and future.

The most striking peculiarity of the Tibetan verb is the great use made of participial and gerundial forms. These verbal adjectives and substantives take on a variety of suffixes, and are constantly employed in situations where we in English prefer subordinate, or even co-ordinate, clauses. Accordingly conjunctions are few, and the word corresponding most nearly to our "and" means properly "with"—"he with me" instead of "he and I." Postpositions take the place of prepositions. In the arrangement of the sentence the principal verb always stands at the end, preceded by any gerunds or supines occurring—each at the end of its section of the sentence. Adverbs or adverbial phrases prefer the beginning of the sentence. A limiting substantive stands before the one limited. An adjective, numeral, or pronoun follows, though the first sometimes precedes in the genitive case. It is said that tones are used in the Tibetan, as in the monosyllabic tongues, to eke out its scanty inflections; but they do not seem to form an important feature of the language.

Crossing the snowy range and descending its southern slope, we come upon numerous small tribes, whose physical appearance

and speech betray their relationship to the people just named, as well as to tribes yet to be mentioned.

They are not found so far west as the Tibetans, having been pressed eastward and northward, or, if it is more correct to say it, having been checked in their westward movement by the more vigorous Aryan race.

They stretch from the Kali river, long. 80°, eastward beyond British India into Burma. Some occupy the higher river-valleys, others find a congenial home in the fever-breeding swamps at the base of the mountains. The nature of the country favors tribal division and the consequent growth of dialects.

Almost the only trustworthy information we have concerning that section of the tribes which center in and about the kingdom of Nepal was gathered many years ago by Mr. Brian H. Hodgson, the eminent Resident at the Nepalese court.

Without attempting an exhaustive catalogue of these tribes, many of which are little more than names to us even now, the following are the best known, in their order from west to east as far as the border of Assam. In the higher, temperate region are found the Sunwar, Gurung, Magar, Murmi, Newar, Kiranti, Limbu, Lepcha, and Bhutanese; lower down are the Bramhu, Kusunda, Chepang, and Vayu.

Mr. Hodgson has furnished us vocabularies of nearly all these tribes, and grammatical sketches of two, the Kiranti and Vayu. It is interesting in its ethnical bearing to note here that there are many points of resemblance between the vocables of the Nepalese tribes just named and those of the wild tribes of Arracan, though any intercourse within historic times is out of the question. Only three of these languages, the Newari, the Limbu, and the Lepcha, possess written characters, and of these they make little use. The origin of their writing is probably to be traced back to India, though how and when they derived it thence is not known. The Kirantis, who to the number of a quarter of a million live in eastern Nepal, speak a language which has a peculiar interest for both the linguist and the ethnologist. It has 14 dialects, which are said to be mutually unintelligible, and are therefore almost entitled to rank as separate languages. We have already seen that the Tibetan has, and shall hereafter note that other members of this family have, a very simple type of word-structure, by reason of which they stand near the level of the isolating languages; but in Kiranti and Vayu we come upon a decidedly complicated system of forms. The personal pronouns have a dual as well as a singular and plural, and the first person has an exclusive and an inclusive form in the dual and plural. They each have also a twofold form—one used independently and the other as a suffix. The verb has quite a remarkable development; for though it is extremely poor in tense and mode-forms, it has a profusion of those expressive of the relations of agent to object;

as when we say "I strike him," "we (including you) strike him," "we (excluding you) strike him," "we two strike them two," etc., etc. Counting all possible relations which the three persons in the three numbers can assume as subject and object, we find that they amount to more than eighty, each one of which may be expressed by its special verb form—and this, in the present indicative alone. Another set of forms makes the inflection of the preterite. Furthermore, this incorporation of subject and object in the verb is extended to participles, each one taking a new form according to the person and number of the subject and object of the principal verb. Each present or past participle has also a double set of forms, determined by the tense of the verb; thus I must choose my form according as I say "speaking he comes," or "speaking he came," "having spoken he comes," or "having spoken he came." It is evident then, that the possible forms of the Kiranti verb mount into the hundreds, and this, in spite of the fact that it has but two modes, the indicative and imperative, and but two tenses, the present and preterite. The Vayu language, spoken near by, so closely resembles the Kiranti that we need not specially describe it.

To suddenly come upon a tongue so rich and intricate in a part of its structure, as is the Kiranti, nestled among languages as conspicuous for their poverty, and spoken by a people no higher in the social scale than their neighbors, is a genuine surprise. Our thoughts turn at once to Central India, where agglutination is the prevailing type of word-structure; and we inquire whether it be possible that the Kirantis and their kindred once dwelt in the Ganges valley along with the Kols and Santals, but were rudely parted from them by the advancing wedge of Aryan migration, and forced to seek refuge in the hills. We should like to know, too, whether the adjoining languages ever had a complex verb-system like the Kiranti, and lost it; or whether their development never proceeded so far. To these interesting questions our present knowledge does not justify a confident reply; for they refer to remote conditions of Indian population, of which we have only occasional and disappointingly brief glimpses. A profounder study of the surviving aboriginal languages in and about India must precede any hopeful attempt to definitely fix ethnical relationships and tribal migrations. Still, in regard to the Kirantis, the united testimony of tradition and present circumstances gives plausibility to the conjecture that they have seen better days, and that the comparative fullness of their stock of word-forms was not developed by the monotonous life of narrow and wooded Himalayan valleys, but in a wider and more suggestive sphere of tribal activity.

JOHN AVERY.

Brunswick, Me., July 4, 1885.

ANCIENT ENCLOSURES IN THE MIAMI VALLEY.

Although the Miami Valley does not rival that of the Sciota, either in the number or magnitude of its ancient enclosures, they nevertheless are sufficiently numerous to demonstrate the existence of a former dense population. Many of these works have been described, and some of them repeatedly; but there are a few that still remain in comparative obscurity.

It is the object of this communication to direct attention to these neglected works by presenting a brief description of them.

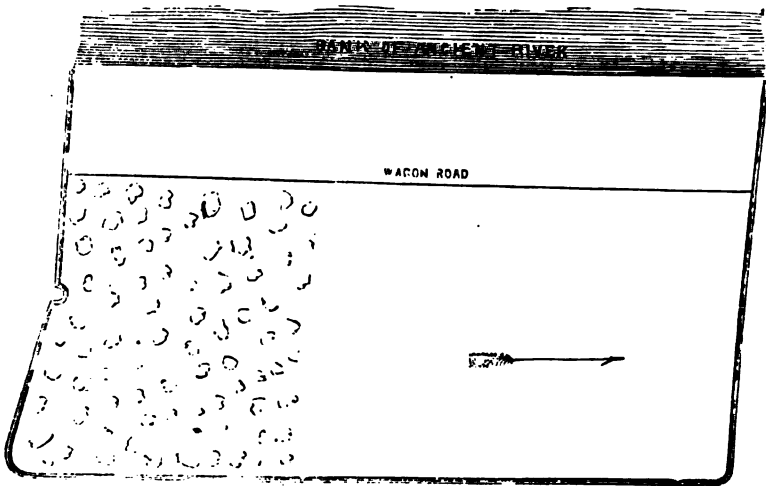


Fig. 1.—Enclosure near Alexandersville, O.

From various causes these interesting monuments of a lost race are rapidly disappearing. Hence we should act promptly in snatching from oblivion the comparatively few that remain. The causes referred to are (1.) The leveling influence of long and persistent culture. (2.) The erosive power of water, and (3.) Inexcusable cupidity.*

I will commence these descriptions with a rare form of enclosure which is situated four miles southwest from Dayton, and two miles north from Alexandersville. The old river road traverses the work in a north and south direction.

The form is an irregular hollow square, the end walls of which terminate on the bank of the old terrace on which the work is located. The divergence of its walls from the cardinal point, and

*The interesting group at Alexandersville has been largely utilized in the manufacture of brick, and with as little compunction as though it had been an ordinary Loess bluff. Even now as I write active operations are progressing in its destruction. The time is not far distant when this grand old monument will live only on paper, and in the memory of a few.

the irregularity of that divergence, may be presented as one of its distinguishing features. And this is the more remarkable in view of the symmetry which as a rule, characterises these quadrangular enclosures. (See Fig. 1.)

Between this terrace bank and the river there is a recent terrace about one hundred and fifty yards in width, part of which is subject to inundation in exceptional floods.

Nearly midway on the line of wall on the south side there is an obtuse angle formed by a divergence from a due east, to a south-east direction, resulting in a prolongation of the south-eastern angle to an unseemly length, the object of which is not apparent.

On the inside of this obtuse angle, and connected with it, there is a mound ten feet in diameter, and of an equal height with the wall, namely, two and a half feet. I explored this mound, but found nothing on which to base a conjecture as to its probable use. It is too small to serve as the substructure of a dwelling, and it is clearly no burial mound. I content myself for the present, by assigning it a position in that convenient class which takes in these non-descripts, namely, "mounds of observation."

I have stated that the end walls terminate on the bank of the old terrace. Mr. Leshner, the proprietor, informs me that this old river bank never supported a wall between these terminal points. From this circumstance, a very remote antiquity has been claimed for this class of works, as it is assumed that at the period of its occupancy the river extended to the bank on which the end walls terminate. And to this hypothesis is attributed the absence of monuments on these low terraces.

With reference to the former assumption it may be stated that a line of pickets may have filled the apparent gap. And the latter can be disposed of by referring it to the same cause which prevents their permanent occupancy to-day. The common sense of this ancient people prompted them to avoid a locality of such uncertain tenure.

This enclosure is "bounded and described" as follows: Beginning at the south-west corner, on the old terrace bank, the wall bears due east two hundred and twenty-five feet. Thence south 72° east, two hundred feet. Thence north 5° west, seven hundred and forty feet. Thence north 85° west, to the old terrace bank.

Much of the eastern wall has been reduced to a common level, and can be traced only by the difference in color. Fortunately, a part of the south end of the enclosure is covered with timber, and a large portion of the north wall is partially preserved by a "worm fence" which formerly occupied it. I was thus enabled to secure accurate bearings and distances.

There is no aperture in the perfect wall, and the former existence of such a convenience in any other part of the circumvallation must necessarily remain a conjecture.

One-half mile, south from the hollow square on the old Leshner homestead, there was formerly a circular wall enclosing about five acres. But this is so hopelessly obliterated that Mr. Leshner could only indicate its outline from memory. Its position was near the margin of the terrace.

The number of stone implements that have been found in the vicinity of this ancient enclosure would seem to establish its claims to a village site.

BOLANDER-RESHER ENCLOSURE.—Nearly opposite the hollow square, on the west side of the river, we find the Bolander-Resher enclosure. This work is situated on an elevated plateau, commanding an extensive range of vision, embracing the north end of the valley, which at this point is about two miles wide. The view is arrested on the north and east by the hills which form the rim of the basin; and at the south by intervening timber.

This enclosure is located partly on level land and partly on a gentle incline towards the south and east, merging in the precipitous hills which formed the western boundary of the magnificent valley referred to. Between the base of these hills and the river there is a narrow belt of recent terrace traversed by the Cincinnati, Hamilton and Dayton Railway.

This work is distinguished by the regularity of its outline and the peculiarity of its position, which is exactly intermediate between the cardinal points. The form is a parallelogram, the sides of which are seven hundred and twenty feet, and the ends five hundred and forty feet.

About one-half of this enclosure is covered with timber. Here, where the work is undisturbed, there is a singular discrepancy in the size of the walls. Thus, while the north-west wall is three feet high and fifteen feet broad, that on the north-east side is not more than fifteen inches in height with a correspondingly narrow base. It is, however, largely composed of grey heads and flat limestones, which probably were utilized as supports for a line of pickets. This conjecture is strengthened by the fact that in many places on the line of wall the margins of these flat stones are seen protruding from the bank and in some instances I noticed a number braced against each other.

At one point on this low wall there is an enlargement without any perceptible increase in height. But its interior presented no distinguishing features.

In both of these undisturbed walls a narrow gap occurs about midway between the corners. It is presumable that the other sides were furnished with similar means of ingress and egress. But as the south half of the enclosure has been many years under cultivation, no visible depression marks the spot. **The only**

perfect corner, (the north) is distinguished by an abrupt but graceful curve, which I infer was characteristic of the others.

On the south-east side there are two clay mounds which Mr. Bolander informs me, were six feet high and forty feet in diameter in their perfect state. These mounds are in close proximity and were enclosed by a circular wall. But the appearance now presented is that of a shallow basin one hundred feet in diameter, with a slightly raised margin. The mound in the center, though greatly reduced, is still a prominent feature. Assisted by Mr. Leshner, I explored these mounds. Although irrelevant to the subject under discussion, I will present a brief description of them.

The interior of the first one investigated, which forms a part of the circumvallation, presented all the features that are usually claimed as arguments in support of human sacrifice; as (1,) an altar made of Springfield clay of the cream-colored variety, on which reposed a thin seam of bone-dust, ashes and charcoal. (2.) On this were found alternate strata of burned clay covers, ashes, calcined bones and charcoal, to a depth of one foot, and extending over an area ten feet in diameter. The entire mass indicated was burned to a brick red. In this burned pile we found a copper bracelet much injured by heat. Was it customary to bedeck the bodies of victims with the trappings of vanity?

The adjoining mound was not stratified, and the evidences of heat were almost wholly absent. But the interior was sufficiently marvelous to merit more than a passing notice. For, on the outside of the altar, and contiguous to it, we found a mass of unctuous clay of a dark brown color, that presented the appearance of having been saturated with blood. This anomalous substance is of frequent occurrence in *burned* mounds, but as the evidences of fire are practically absent in this example, it cannot be claimed as an adjunct to human sacrifice unless we assume that the victims were slain on one altar and consumed on the other. But it should be stated as a palliative, that these proofs of burnings are invariably concealed by a cover of clay several feet thick. No human remains were found in this connection.

S. H. BINKLEY.

Alexandersville, O.

THE APACHE-YUMAS AND APACHE-MOJAVES.

The Apache-Yumas, Tulkepaia, or Natchous, belong to the Yuma, or Katchan family of Indians. The name Apache-Yuma was given to them by the whites, but they are known to the Indians of the Yuma family as Tulkepaia, or in full, Tulkepaia (sparrow?) venuna (belly) tchehwale (spotted), and to those of the Tennai family—the so-called Apaches—as Natchou (lizards).^{*} They have quite recently sprung from the Yumas, or Katchans, the Apache-Mojaves, or Yavapais, and Mojaves, or Mokhabas.[†]

Their country is in Arizona, north of the Gila river, between the Verde and the Colorado. They were hostile to the whites until 1873, in the spring of which year they were collected to the number of about five hundred and taken to the Rio-Verde reservation, which embraced a tract of country beginning near Fort Verde and extending forty miles up the river, and ten miles on each side of it. They had been fed by the government at Camp Date-Creek, Ariz., for several years before their removal to the Verde, but marauding parties frequently stole away, to plunder and kill settlers and travelers, and it was only after they had been severely punished by the troops many times that they ceased their depredations.)

The Apache-Mojaves, Yavapaia, or Kohenins, also belong to the Yuma family.[‡] The whites call them Apache-Mojaves, but the Indian related to them call them Yavape, Yavapaia, or Nyavapai, and the Tennai call them Kohenin. They claim as their country the whole of the valley of the Verde river and the Black Mesa, as far north as Bill William's mountain. Of their origin or migrations they are unable to give any account, as traditions are almost unknown among them, as well as among the Apache-Yumas, owing probably to their great reluctance to speak of the dead. They were comparatively recent comers into the Verde valley, for according to the traditions of the Moquis the ancestors of the latter inhabited it for a long time, and were the builders of the stone structures, the ruins of which are to be seen on the edges of the mesas and in the cliffs along the river. The Moquis deserted the valley "five old men ago"—the words of an old Moqui man from the pueblo

^{*}The name Apache is the plural form of pa or apa, a Katchan word, and signifies "the men", *i. e.*, Indians. It is commonly applied to the Indians of the Tennai family, but should be used designate the Katchan family.

[†]The name Mahaba, of which Mojave is a corruption, means "three mountains." It is derived from the words *hamok* (three) and *habt hemt* (big rock or mountain.)

[‡]The following named tribes are also members of this family: Diegueno, Cocopa, Yuma, Mohave, Hualpai, Maricopa, Yuva-Supai, and Apache Tonto, the latter a mixture of Yuma and Tennai.

Wolpi—because of a long drought accompanied by a fatal epidemic.* Very little was known about the Apache-Mojaves before the year 1872, as they had rarely visited Fort Verde or come in contact with the whites, but in that year after Brevet Major General Geo. Crook, U. S. Army assumed command of the Department of Arizona, many of them were induced to visit the post to obtain rations. On the first ration day only about ninety appeared, but on the second, they came in crowds from every direction, and upward of seven hundred were present. They continued to engage in hostilities however until 1873, by which time they were whipped into submission. In the spring of that year about one thousand of them were placed on the Rio-Verde Reservation, and the remainder sent to the San-Carlos Agency.

About five hundred of the so-called Apache-Tontos—Indians from Tonto Basin and the Pinal mountains—were taken to the Rio-Verde Reservation the same spring. They are of mixed blood, having descended from both the Katchan and Tennai Indians. Many of the men are Yavapais who have taken Apache women for wives—probably stolen them—from among the Pinal and other Apaches south of the Salt River. They speak a mongrel tongue which is a mixture of Katchan and Tennai, and are for this reason called Ahwa-paia-kwanwa (enemy, all, and speak).

The A-Yumas and A-Mojaves were never on good terms with the A-Tontos before they were placed on the Reservation, and the presence of troops at the Agency did not always prevent them from coming to blows afterward, when they met on ration and count days. During the first summer on the Reservation, they all experienced much sickness, more especially those bands who were last to surrender. They were exhausted from fatigue, sickness, and lack of proper food; the troops having harassed them to such a degree that they had but little time to search for food, and were compelled to subsist almost exclusively on tuñas, or prickly pears, and half-cooked mescal, or American aloë, which produced dysentery, and consequently were not in condition to resist the malaria, which is so active in the river bottom of the Verde. While still suffering with malarial fevers and dysentery, they were seized with the epizootic, at that time epidemic among the horses. In the month of September, so many were prostrated with this combination of diseases, and deaths were so frequent, that many of the dead remained unburned, on account of the inability of the relative to carry the wood necessary for a funeral pyre. On removal to higher ground the sick rate declined, and the next year they maintained a good state of

* As a lifetime, or seventy years, is meant by the expression "one old man," it is three hundred and fifty years, or if the age of my informant be included, as it probably should, about four hundred years since the Moquis quitted the valley.

health.* It was a very difficult matter for some time to keep them on the Reservation; and it became necessary to adopt a system of checking and counting the men, in order that the absence of any of them might readily be discovered, and troops promptly sent in pursuit of them. After many had been captured and punished by imprisonment for a month or longer, very few attempted to leave without permission. A better state of health, and success in farming, together with a firm but just rule, at length reconciled the majority to what, at first, was an irksome life to them.

In 1874 they constructed a dam in the Verde River, dug a long ditch for irrigating purposes, and that summer raised a fair crop of corn, potatoes, melons, and pumpkins under the supervision of army officers. Their success delighted them, and made them eager the next year to plant a larger piece of ground. But in the spring (1875), while they were begging for farming implements and seeds, a special commissioner arrived from Washington with orders to remove them to the San Carlos Agency. They protested strongly against the removal, and told the Commissioner that they had been brought to the reservation against their will, but, as it was a portion of their country, which the government had promised should belong to them and their children forever, they now wished to remain, and did not wish to go to a strange country, and among strange people. They had been so successful too on their farm last year, that they were certain of doing well in the future. They wished seeds, farming implements, cattle, school teachers, and everything that would enable them to live like the whites. Their protests however were not considered, as the policy of the Indian Department required their removal, and they were forced to go. While on the Rio-Verde reservation forty of them were constantly serving as police and scouts, and in 1874, when the San Carlos Indians left their reservation, about one hundred and fifty volunteered to assist in driving them back. From these one hundred and twenty-two were selected and enlisted as scouts, fifty-nine of whom were A-Yumas, forty-one A-Mojaves and twenty-two A-Tontos. They were in the field three months and did excellent service.

The A-Mojaves and A-Yumas have a dialect in common, although each tribe uses a few words peculiar to itself. It differs somewhat from those of the Yumas, Mojaves, and Hualpais, but not so much as an examination of the published vocabularies would lead one to suppose.

The A-Mojave men are of tall stature, erect, muscular, and well proportioned. The average height of twenty-four of them, in their bare feet, was found to be 5 feet 8½ inches, and the

*The Agency was located about sixteen miles north of Fort Verde, on the east bank of the river, until June, 1874, when it was removed about two miles and a half west to higher ground at the foot of the mountains.

average weight, 157 $\frac{7}{8}$ pounds. The A-Yuma men are a little taller and more angular. The average height of twenty-two of them was found to be 5 feet 8 1-5 inches, and the weight 152 15-16 pounds. These figures are probably rather under than over the average for the adult men of the tribes, as those measured and weighed were not selected, but were taken as they came up to receive their rations at the Agency, and some of them were not over twenty years of age, and had not yet attained their maximum height and weight. The A-Mojave women are taller and have handsomer faces than the A-Yumas. The latter are, with few exceptions, short and gross, measuring in height about 5 feet 3 inches, and weighing about 140 pounds.

Their skin varies in color according to the season, from a dark mahogany in summer, to a light mahogany or café-au-lait in winter. Their hair is evenly distributed over the head, and is coarse, black, and straight. It is worn very long behind, and is cut in front on a line with the eyebrows, or in summer even a little lower, to shade their eyes from the glare and reflection of the sun. The women wear the back hair reaching just to the shoulders, and always flowing, but the men permit it to grow long, never cutting it except when mourning the dead, and tie it up with a Navajo garter, or a piece of red flannel in which they carry a slender stick or bone about eight inches long, which serves them as a comb. The scalp-lock is never seen, unless the small lock of hair to which a feather ornament is tied can be considered as such. Some of the A-Yuma men wear long rolls of matted hair behind, which are the thickness of a finger, and two feet or more in length, and composed of old hair mixed with that growing on the head, or are in the form of a wig, made of hair that has been cut off when mourning the dead, to be worn on occasions of ceremony. The hair almost always harbors some lice, and the one-toothed comb is frequently brought into requisition to scratch with, but sometimes the head becomes so infested, that they are obliged to resort to some more expeditious method of getting rid of them than the common one. They then roll the hair around the top of the head, and fill it with black mud, which they allow to remain twelve hours or so, and then wash it out, together with the vermin which have been effectually smothered. In summer they wash their heads frequently with a shampoo made by wringing the juice from six or eight leaves of the Spanish bayonet (*yucca baccata*), into a gallon of tepid water, first holding them over a fire for a few minutes to wilt them. It makes the hair soft and glossy, and, they say, promotes its growth. A few coarse straggling hairs appear on the chins and upper lips of the men, but these are diligently plucked out by the roots with tweezers, and a beard is never allowed to grow.

Feathers are the favorite head ornaments of the men, who are

rarely seen without one or two secured to a lock of hair at the crown of the head. Each one is fastened by means of a string two inches in length, so that it will flutter on the least motion of the wearer. Quill-feathers from the hawk or eagle, down, white



A Tattooed Apache Woman.

or tinted red, a large bunch taken from the back of the wild turkey, and the skin of the California canary are those usually worn. The women never wear feathers.

Their foreheads recede from prominent brows, and are low and narrow. Their eyes are far apart, and almost hidden by heavy lids, the edges of which the women often paint black, to give the eyes a bright look. The conjunctive is of a yellowish tint, and the iris is a dark mahogany color. Some of them have Roman noses,

but the majority have broad flat ones with conspicuous nostrils. Some of the men pierce the septum, and hang from it a large bead, or a string of small ones. Their ears are small, and, when not disfigured by cuts, shapely. Many of the men have notches along the pinna, and all have a short slit in the lobe of each ear, made soon after birth by means of a piece of wood hardened in the fire and sharpened. Strings of small beads, five or six inches long, with mother-of-pearl or stone pendants, are worn by both sexes. They have large mouths with rather long thick lips. Their teeth are small, closely set, and, in the adult, yellow and frequently decayed, but always free from tartar. In the old they are usually worn down to mere stumps, from constant use in holding hides to dress them, or in softening them when making clothing or shoes. Their chins are short and recede slightly. Their hands and feet are small, and remarkably well-formed, their insteps are finely arched.

Tattooing is practiced by the women, but rarely by the men. The married women are distinguished by seven narrow blue lines running from the lower lip down the chin, the outer ones starting from the corners of the mouth and frequently having a row of arrow-shaped points directed outward; or two zigzag lines run from each corner of the mouth, and the three between them are straight. A young woman when anxious to become a mother, tattoos the figure of a child on her forearm for good luck. A few women have two or three straight lines running a little over half-way around the forearm. Charcoal prepared for the purpose is the only coloring substance used in making these figures. It is pricked into the skin with a bunch of cactus thorns, sharp bits of quartz or needles.


Paint is freely used at all times by both sexes, for comfort as

well as ornament. It serves them as clothing, keeping them warm in winter and protecting them from the heat of the sun in summer, they say. Red is the favorite color, and is commonly obtained from red clay which they dry, reduce to a powder, incorporate with saliva, make into small cakes, and dry. Afterward

they bore a hole in each cake for a string, by means of which they carry it tied to the girdle ready for use. When they wish to apply it they mix it by rubbing the edge of the cake in some saliva in the hand. They generally smear it over the whole person, and scrape straight and waived lines, or other designs in it with the tips of the fingers. They are then literally "red men." Galena and burnt mescal are used on their faces, the former to denote anger, or as war paint, being spread all over the face, or over all except the chin and nose, which are painted red. The burnt mescal is usually smeared on, and waved lines are made through it from the nose to the ears, or it is daubed on in spots all over the face, or two parallel lines are drawn across the cheeks on each side of a row of dots.

The ordinary costume of the men in summer is a very simple one, consisting of a pair of moccasins and a breech-clout. The latter is a strip of calico, about two yards long, passed between

TĒ-RĀ-FI



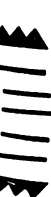
WOMEN

HI-U-YĒ-Ū-YE-BI



MARKS ON CHIN OF MARRIED WOMEN

SKĀ-LI-SĀ-LI



MARKS ON CHIN OF MARRIED WOMEN

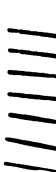
TĪ-BI



(FIGURE OF CHILD)

TATTOO MARK ON ARM OF MARRIED WOMEN

SĒ-JŪ-TWI



MARKS ON CHIN OF MARRIED WOMEN

the legs and hung over the belt in front and behind, the hind end reaching nearly, if not quite, to the ground; or a strip of buck skin, the hind end of which, when the hair of the animal is allowed to remain on, so closely resembles the tail of an animal, that in early days the report was current that the Apaches had tails. In winter, the skin of some animal dressed with the hair on, or a Navajo blanket is wrapped around the shoulders, and long buck skin leggings are sometimes put on. Occasionally they wear a

jacket, which is made by doubling a deerskin crosswise, cutting a slit at the fold through which to pass the head, and tying the sides together, leaving spaces for the arms. The women wear two buckskins hung over a belt, one in front and one behind, in the form of a kilt, and in cold weather, a third one suspended from the neck by strings, and bound at the waist by the belt to protect the chest. The edges of the skins are cut in deep fringe, on which numerous cartridge shells, little rolls of tin, etc., are often hung to produce a jingling sound, and a few straight and waved lines are painted above the fringe. Rabbit's bones, with chevrons or arrow points cut on them, are strung on the suspenders which hold up the chest covering. The kilts of a few of the A-Yuma women in summer are composed of strips of bark hung over a belt. The women wear the same kind of moccasins as the men. The A-Mojave moccasins reach nearly to the knee, and each one is made of half a buckskin turned over in three folds to protect the legs, and secured to the ankle by means of a string. The soles are made of undressed cowhide with the hairy side out and cut in the natural form of the foot. The legs of the A-Yuma moccasins are shorter, and not folded, and the soles are made of thick dressed buckskin, which is brought up over the foot, then gathered and fastened to the uppers. Each person usually does his own sewing, and the implements used are a steel knife, and an awl made of a steel fork by breaking off all the tines except one. Some of them still use their primitive implements, a sharpened bone for an awl, and a small flake of sharp quartz for a knife. Sinew from the deer is their thread. The men dress all of the skins. They soak the green hide in water to loosen the hair, then throw it over a smooth, round stick, which they incline against a tree or rock, and scrape the hair off with the scapula of the deer, or, lacking this, some other suitable bone. They then spread it out on a bush to dry, and afterward roll it up, perhaps to carry it about with them for some time. When they wish to make use of it, they soak it again, and after thoroughly wringing out the water, sit in the sun and pull it until dry and soft. Moccasins and buckskin clothing have to be redressed after every wetting, otherwise they become hard and shrunken.

Beads, which also serve them as currency, are the commonest ornaments. Frequently as many as four pounds of small ones may be seen wound around the neck of one person. A couple of strands are suspended from the slit in the lobe of the ears, and the women tie a few around their wrists. The small white china ones are those usually preferred. Very little bead-work was attempted before 1874, and the designs were of the simplest kind, being limited to straight, curved and zigzag lines. A fringed and painted buckskin pocket is suspended from the bead necklace to hold a small round looking-glass which is a very important article of a young Indian's wardrobe, as much of his time is

devoted to decorating himself in order to gain the admiration of the women. Before the introduction of the looking-glass, he had to content himself with a look in a pool or vessel of water. The men wear a bracelet from two to four inches wide, around the left forearm, to protect it from the recoil of the bow string. It is made of heavy otter or deer skin, and is ornamented with paint, beads or brass buttons. Those who have muzzle-loading guns wear one made of leather, in which little tongues are cut to hold percussion caps.

They live in circular brush huts *n-wah*, about five feet high, and from six to eight feet in diameter. To make one, a hollow space is excavated with sharp sticks and their hands, and the earth is banked up around the circumference, until they have a bowl-shaped depression about a foot and a half deep. Around the edge of this, bushes or branches of trees are stuck, bent over and fastened together to form a round top. In winter it is thatched with grass, tule, or soap weed so that it will shed rain. An opening is left on one side, which serves as an outlet for smoke, as well as a doorway. The fire is made just inside the opening. For a bed they break up the ground, let it dry, pick out the stones, and then spread down dry grass. Seeds, meat, buckskins, extra clothing, etc., are hung outside on upright poles. Formerly only a few huts were usually found together, and they were occupied by members of one family, as these people had to scatter over the country in small parties, and move frequently, in order to obtain a sufficient supply of food; but in seasons of plenty, villages of about one hundred souls would be formed, when the huts of each family were always built in a group by themselves.

A very small fire suffices them, and they never waste wood by building large ones, even in winter, or when wood is very abundant. When cold, one warms himself by squatting down and wrapping his blanket around him and the fire. To kindle a fire, they resorted to the fire drill before the introduction of the flint and steel, and matches, but usually preserved coals in the ashes to avoid the labor of drilling. *O-oh' me-te-kwa-te*. "Make the fire blazy" is the common expression still used, even when the fire is to be kindled by means of a match. A slow torch made of dry dead-wood was carried in traveling. It enabled them to make fire or smoke signals, by means of which they could communicate with their friends at pleasure, as well as to kindle a fire at their next stopping place. For a drill, they use a piece of the stem of the *o-oh kad-je* or "fire-stick bush," about two feet long and half an inch thick. They dip one end in the sand, then pressing it in a shallow depression made in a piece of dry soft wood, such as the stalk of the yucca, which is laid on the ground and held by the foot, whirl it between the hands. In a few seconds the friction produces a small quantity of very fine

charcoal, which, when rolled out on some dry grass or bark-fibre, and given a light puff or two, bursts into a flame.

Basket-ware and vessels of pottery are in common use. Their manufacture is confined to the women, who own all such property. Unglazed earthen vessels, of various sizes, for domestic purposes, such as pots, *a-mat*, to cook in, with a capacity of from two to three gallons, large shallow bowls to hold food, and water-jugs with globular bodies and narrow necks, *a-mat ha-thi-wa*, and *so-wah*, the largest holding as much as four gallons, are made out of red clay. Some of them are decorated



Apache Basket.

with one or two narrow horizontal bands and zigzag lines painted in darker or lighter colored clay. They all have convex bottoms, and are thin and very brittle. None of them have feet, but those used for cooking purposes are supported over the fire on three stones, *o-kùth-kù-mi*. The moulding

is done entirely by hand in the lap or on the ground, yet the vessels are quite symmetrical in shape. The clay of which they are formed is dried, ground on a metate, and then worked into a dough with saliva, and water which has been rendered mucilaginous by boiling cactus in it. The bottom of the vessel is formed of a lump of the dough, which is pressed into shape with the hands, and the rest is built up of rolls, each one of which adds about one inch to its height, and is allowed to dry a little before another is added. One hand on the inside and the other on the outside press and smooth the clay to give the vessel its proper contour and thickness. Saliva is used freely on the hands to facilitate the work. After a vessel is completely formed, it is thoroughly dried in the sun or near a fire, and then burnt by itself in an open fire. Strong, light, globular jugs, to carry water in, are made by covering loosely woven basketwork with pitch or red clay. These have two small loops or handles on the largest part of the body, for the attachment of a string or band, by which the jug is carried on the back suspended from the head. They vary in size from mere toys to those having a capacity of four gallons, and every woman, and every girl down to the age of three or four years, possesses one or more of them. They are one of the most important articles of their manufacture, as during certain seasons of the year water is very scarce in their country, and often has to be carried long distances. The strength and lightness of the jugs recommend them to other Indians, who frequently procure them in trade.

WM. F. CORBUSIER.

Correspondence.

DHEGIHA LANGUAGE AND MYTHS.

Ed. American Antiquarian:

Owing to the long delay which must ensue before the publication of "Contributions to N. A. Ethnology, Vol. VI. The Dhegiha Language," it has been thought expedient to furnish a statement, with an abstract of the contents of the volume. The author was missionary to the Ponkas from 1871 to 1873, and then began his study of their dialect, which is substantially that of the Omahas. From 1878 to 1880, he resided among the Omahas, and on his return to Washington he took the originals of forty-eight myths, legends, and ghost stories, twenty-one historical papers, and three hundred epistles, all of which had been dictated to him by the Ponkas and Omahas in their own dialect. He also collected similar material in the language of the Iowas, Otos, and Missouris, and a Winnebago vocabulary, with grammatical notes.

The Director of the Bureau of Ethnology has proposed to publish Vol. VI in three parts: Texts, Dictionary, and Grammar. Part I, "Myths, Stories, and Letters," will contain an Introduction by the Director, one by the author, and the myths, legends, ghost stories, historical papers, and forty-eight of the three hundred epistles, mentioned above, with interlinear translations, critical notes, and free English translations. Of this body of texts, 544 pages, 4to., have been stereotyped at the Government Printing Office since March 1882. Part I cannot be published before the completion of the other parts. The other letters and several myths gained since 1880 must be reserved for publication in another volume. Part II, the Dictionary, will have a twofold arrangement, Indian-English, and English-Indian. Up to July, 1885, over 16,000 Indian-English entries were transliterated and arranged in alphabetical order. No more has been done on account of frequent interruptions. From November, 1882, to Feb., 1883, the author was in Indian Terr., collecting similar information in the cognate Dhegiha dialects, Kansas, Osage, and Quapaw, which material, however, is too extensive to be admitted into Vol. VI. The preparation of "Omaha Sociology," the correction of proof for Dr. Riggs' Dakota Dictionary, and the collection of vocabularies, etc., from Oregon tribes, have occasioned further delays. Lastly, since July, 1885, the author has coöperated

with the other workers of the Bureau, in the preparation of an Indian Synonymy, giving special attention to the Dakota or Siouan, Athapaskan, Caddoan, Kusan, Takilman, and Yakonan linguistic families. Even with uninterrupted attention hereafter, it will require at least two years for the completion of the Dictionary, to say nothing of the Grammar.

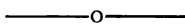
The first myths in the Dhegiha collection are those in which the Rabbit is the hero. 1. "How the Rabbit killed the Winter" has been published in the *ANTIQUARIAN*. 2. "How the Rabbit caught the Sun in a trap" explains the origin of the lock of singed hair on a rabbit's neck. Prior to the occurrences related in this myth, the Sun dwelt on this earth. 3 and 4. "How the Rabbit killed the Black Bears." One version explains the origin of the *catamenia*. By means of his magic art, the Rabbit overcame the Black Bear nation, (who had held mankind in subjection), reducing them to the state of mere animals; and thus he proved the benefactor of the Indians. 5. On another occasion he slew a giant, who would not allow the Indians to eat any animals which they killed. 6. In the myth of the Rabbit's journey to the Sun and the upper world, he kills his uncle and aunt (the Eagles) and their progeny. This myth resembles in several particulars one told by Dr. Washington Matthews, U. S. A., about a Navajo hero's adventure with "harpies." 7. The Rabbit and the Hill-that-devoured-people." This relates how the hero assumed the human form and entered the hill, where he found many Indians. He rescued them by cutting to pieces the heart of the hill. 8. "How the Rabbit cured his wound." He told his grandmother to gather certain herbs which he described. 9. The myth of the "Rabbit and the Grizzly Bear" is almost identical with the Dakota story of the Blood-clots Boy, which appeared in the "Iapi Oaye" about four years ago. The Ponka version tells how the Rabbit served the Grizzly Bear by driving the game forward, the formation of his son from blood clots by addressing magic words to them, and the final death of the tyrant at the hands of the young Rabbit. 10. "The young Rabbit and Ictinike" may be viewed as a continuation of the preceding. In it we read of the magic clothing of the hero, the wiles of Ictinike, and the recovery of the magic clothing just before the owner caused the death of his opponent.

In these myths, the old Rabbit (or else his son) is opposed to Ictinike, the deceiver of mankind, while in Algonkian myths, Manabozho, the Great Hare, is said to be the deceiver himself.

11. The adventures of Si-dhe-ma-kan as a deer are placed next, as he is said to be identical with Ma-schin-ge, the Rabbit.

J. OWEN DORSEY.

Bureau of Ethnology, Washington, D. C.



MOTHER-RIGHT IN SOUTH CAROLINA.

Ed. American Antiquarian:

Hon. Lewis H. Morgan and other ethnologists of more or less note have occasionally referred to the existence of *gynocracy*—

the *mutter-recht* of the Germans—in America. Conclusive evidence to the fact that this singular form of government was once recognized at the South, as well as among the Iroquois and some of the more western tribes, has recently come into my possession in the shape of a tracing of an Indian deed which is preserved among the records of the South Carolina State Department. This curious old document bears the date of 1675,—only five years after the first Carolina Settlement at Port Royal by Col. Wm. Sayle. The text is as follows:

“St. Gyleses Plantation Cassoe..

To all manner of people,

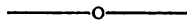
Know yee that wee the Casseques natural borne Heires and sole proprietors of great and the lesser Cassoe lying on the River of Kyewaw the River of Stonoe and the freshes of the River of Edistohe doe for us ourselves, our subjects, and vassalls, demise, sell, grant and forever quit and resigne the whole parcell and parcells of land called by the name and names of great and little Cassoe with all the Timber on said land and all manner of appurtenances any way belonging to any part or parts of the said land or lands unto the right honorable Anthony, Earle of Shaftesbury, Lord Baron Ashley of Wimborne, St. Gyleses, Lord Cooper of Pawlett and to the rest of the Lords Proprietors of Carolina for and in consideration of a valuable parcell of cloth, hatchets, beads, and other goods and manufactures now received at the hand of Andrew Percivall Gent,; in full satisfaction of and for these our Territories, Lands and Royalties with all manner of appurtenances, priviledges and dignities any manner of way to us ourselves or vassalls belonging. In confirmation whereof Wee the said Casseques have hereunto sett our hands and affixed our seals this tenth day of March in the yeare of our Lord God one thousand six hundred and seaventic and five, and in the twenty-eighth yeare of the reigne of Charles the Second of Great Brittain, France and Ireland, King defendr: of the faith etc. Signed, sealed and delivered in the presence of us: John Smyth, Jacob Waight, James Palmer, David Maybancks, (the marke of) John Walker, (the marke of) James Cluss, (the marke of) Henry Clement.” Then follow the “markes and seals” of four “Casseques” and twenty-three “Indian Captains.” These marks of the Indians are merely scrawled lines such as any child might make who had no idea of the use of a pen. One is designated on the deed as “a hill capt.,” eight bear the legend, “the mark of a Indian Capitaine,” and of the remaining fourteen each has an accompanying inscription describing it as “the marke of a woman Captain.”

We may infer from these signatures that the Indians who made this deed were in the midst of the transition from gynocracy to the patriarchy of later times; and that among them mother-right was not confined to the direction of household affairs, as was that studied by Morgan, but women were intrusted with public office—a part, at least, of the government of the tribe being in their hands. The four *Casseques*, however, whose signa-

tures came first and have the *Locus Sigilli* appended, are all males. The first signature is "the mark of the Great Casseque and his seale;" the second, "the marke of the next great Casseque and his seale;" the third, "the marke of a Casseque—his seale;" the fourth, "Casseque—his marke and seale." It seems likely that these are the signatures of the tribal chiefs, while the twenty-three "markes of Indian captains," which include the signatures of women may be the marks of gentile chiefs.

JOHN HAWKINS.

Prosperity, S. C., July 15, 1886.



AMERICA AND ATLANTIS.

Editor American Antiquarian:

I can strongly recommend to the attention of American scholars the remarkable essay by Mr. Hyde Clarke, the Vice-President of the R. H. S. (of England), on the "Examination of the Legend of Atlantis in reference to Proto-historic Communication with America," just published in its transactions by our Royal Historical Society. Like most of Mr. Hyde Clarke's writings, it is suggestive and full of curious learning, though few might be inclined to accept all the bold conclusions to which the writer has arrived. The idea of the writer is that the account of Atlantis by the ancients is far too like America to be accidental, and that there must, long anterior to the Christian era, indeed before the civilization of Europe, have been communications between America and Africa, out of which the ancient Egyptians, and afterwards the Greeks, formed the legend of Atlantis. The connection of the people of Eastern Asia with those of the northern regions of America has been, Mr. Clarke thinks, established, and in his "Khita-Peruvian Epoch," an essay published in 1877 (which Americans ought to read), he cleverly works out the connection of the Chinese and Indo-Chinese with the Peruvians. The theory of "The Four Worlds" was taught by Crates of Pergamos in B. C. 160. This represented Europe, Asia and Africa as one continent, balanced by an Austral continent to the south, (which we may take for a dim tradition of Australasia, possibly visited by ancient navigators in the Indian Ocean, but not considered worth colonizing). On the other side of the world were two other continents balancing these two,—one on the north and the other on the south. This is a tolerable description of real facts. The only error was the supposition that North and South America were separated by the ocean. This statement Mr. Clarke thinks "too close to be accidental."

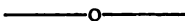
Plato says that Atlantis was larger than Libya and Asia put together, and that there was a sea with many islands in it running up into the continent, so "it appears to be a bay with a kind of narrow entrance." This may imply the Caribbean Sea. The country seems to have been rich, abounding with metals, especially gold.

and silver, and fine fruits. This would do for Mexico. The legend is said by Plato to have reached the Greeks through the Egyptian priests, and was thus a part of the "wisdom of the Egyptians." Elian speaks of a legend of a continent beyond the Atlantic "larger than Asia, Europe, and Libyan put together." There were cities there and plenty of gold and silver. Diodorus Siculus also speaks of a great island beyond the Atlantic where trees bore fruit at all the seasons of the year. Cicero in the *Somnium Scipionis* hints at other continents. Even St. Clement, (the Father of the Church), refers to worlds beyond the ocean. Vergilius, an Irish priest in the 8th century said there were antipodes and people living there. Many Irish legends relate to the "Island on the border of the world."

It has been the fashion to regard all these as mere clever guesses at truth, but I agree so far with Mr. Hyde Clarke, that they are more than that, though I cannot accept all his conclusions. I would suggest however, that the evidence of communication between Europe and America prior to Columbus, or even to the Viking discoverers of Vinland is worth considering. Perhaps even in the popular American histories of the future the statements of Plato and of the ancients about the Atlantic continent may claim a place.

W. S. LACH-SZYRMA.

Cornwall, England.



THE RED WING ELEPHANT.

Editor Am. Antiquarian.

In the July number of the *ANTIQUARIAN* I see you mention Mr. Putnam as having made a statement "that there are elephant mounds at Green Lake, Wisconsin, and near Red Wing, Minnesota." You had reference I presume to the second edition of the pamphlet on "Elephant Pipes" in which appears a letter from Dr. Willis DeHass, making such an announcement. Now as you have demolished the Wisconsin elephant, I can do a similar service for the Minnesota one, and thus prevent a "Red Wing elephant" fiction going the rounds of the item columns of the *Antiquarian Journals* of the world.

Last year, in the fall, I spent some time at Red Wing and thoroughly explored the country in every direction. In that whole region I found but two mounds representing animals. One was a bird, and the other, an effigy of an ordinary tailless animal, similar to those at North McGregor, Iowa, but only fifty feet in length from nose to rump. It has no prolongation of snout at all, so could not be made into an elephant by the most imaginative person. No one but myself, to my knowledge, has made surveys or critical examination of the outline of the earth-works in the Cannon River Valley, and therefore I presume that the correspondent referred to by Dr. DeHass was myself. Dr.

DeHass in some way must have misunderstood my letter to him, written in reply to his general inquiries.

It would be too bad to have an "elephant" that I did not find, and which is the offspring of a misapprehension, unloaded on an innocent world which is already sorely burdened with many archæological frauds and humbugs.

Yours truly,

T. H. LEWIS.

St. Paul Minn., August 1, 1886.

The Museum.

DEVOTED TO THE INTERESTS OF COLLECTORS.

EDITED BY EDWIN A. BARBER.

• HAVING made special arrangements with a competent engraver to furnish outline cuts of archæological specimens, at the rate of 75 cents each, we shall be glad to figure and describe any specimen owned by any one of our contributors on receipt of this amount accompanied by a sketch or photograph of the original. This unusual offer is made in order that rare or unique antiquities which are buried in private collections may be brought to the knowledge of other students and collectors. The cost is about one-third of the usual charge for the simplest engraving. We trust that all who have relics worth figuring will avail themselves of this offer.

THE Universal Exposition, which will be held in Paris in 1889, will include an Anthropological Section. Archæologists in this country are cordially invited to coöperate. Communications should be sent to Professor G. de Mortillet, Député à Saint-Germain-en-Laye (Seine-et-Oise), Paris, France.

MR. A. G. RICHMOND of Canajoharie, N. Y., reports the discovery of a curious stone disc, in the Mohawk valley, on a newly ploughed field which abounds in relics. It is about two and a half inches in diameter, made of a bluish slate, with a hole in the center. One side contains an etching of a bow and arrow above which is the date 1774 and below, the letters W. K. As no copper or iron implements have ever been found in this vicinity, the presence of this production, evidently, at least in part, the work of a white man, is inexplicable.

MR. J. R. NISSLEY, of Mansfield, Ohio, sends the sketch of a hematite implement, which was ploughed up near Galion, Ohio. It measures 11-16 inches in diameter at the base and one inch high, being conical in shape. When found it was ~~enclosed~~

buckskin sack. Mr. Charles Pennypacker, of West Chester, Pa., found some years ago, near that town, a somewhat similar implement of the same material, but which was almost rectangular at the base, instead of circular.

A few years ago, while digging in an old Indian burying ground in Wyandot, Co., Ohio, Mr Nissley exhumed three skeletons which had a quantity of buckskin adhering to the bones.

RELICS MADE FROM VOLCANIC ROCKS.

Ed. Museum:

In April, 1885, accompanied by two sons in search of government land, I traversed the State of Nebraska from the south-west corner to Niobrara River, in longitude $99^{\circ} 20'$, where they located. Our route lay principally over Lacustrine deposits and Pliocene sands. No mineral or archæological specimens were found, until we reached the vicinity of the Niobrara. There the interminable bed of sand deposited by the Pliocene sea had been burst through by the action of internal heat, and evidences of the wonderful changes wrought upon the material of which the crust of the earth is composed, lay scattered around upon the surface. Masses of lava, elevated from the depths below, of irregular shape, and full of pockets, caused by the formation of gases during the evolving process, appeared as huge rocks of green stone. Sand, melted by the intense heat and more or less perfectly mingled with the coloring matter held in solution by the lava, had formed into chalcedony, carnelian, obsidian and moss agates, varying from nearly white to light green, red and black; and their surfaces were still blistered and rough, and in some cases coated with a thin layer of carbonate of lime. By the action of the hot water of geysers upon the sand and volcanic deposits, white, yellow, and dark-green, and probably red and black flocula were deposited; and these, under pressure, were formed, white, red, yellow and black jasper, and those of intermediate colors. Travertine was also deposited, and in the alluvial soil of the river bluffs, stalagmites. Petrified wood and bones were not unusual.

Of relics manufactured of the above described volcanic formations I have: a knife a half an inch wide and $4\frac{1}{4}$ inches long, made of bluish-gray chalcedony, two spear heads, $2\frac{3}{4}$ inches wide; one and the other 5 inches long, made of greenstone; one arrow head of chalcedony $1\frac{3}{4}$ inches long, and two smaller ones made of yellow jasper, a stone hammer ground around the center, 1 inch long and $\frac{5}{8}$ inch in diameter, made of yellow jasper, an arrow head $1\frac{1}{2}$ inches long and a half inch wide, of chatoyant obsidian; a pestle, internally travertine, externally greenstone; also one small and two large stone hammers, grooved around the center, and two globes, or balls, made of fine compact sand-stone. The larger globe or ball weighs 3 lbs. 11 oz. Its diameter is $4\frac{1}{4}$ inches.

With the exception of two slight elevations the ball is very regularly formed, and its surface is very smooth. On one side of the ball green serpentines $\frac{1}{8}$ of an inch apart can be traced, and several square spots are colored dark green.

JEROME WILTSE.

Falls City, Neb.

PESTLES AND BANNER-STONES.

Ed. Museum:

I send herewith a few drawings which may interest you. Fig. 1 is a beautiful and remarkably symmetrical object of green ribboned shale, perforated in the center. I send this and Fig. 2 as bearing somewhat upon the question of symbolism to which you have devoted considerable attention. The latter is bored through from the flat side, and countersunk, terminating in a mere dot. The semilunar and horse shoe form, noticeable in cross-section, are suggestive. I have three others identical in form with Fig. 4, but they are not perforated. The largest is seven inches and the smallest four. All are highly polished. Would you include these objects with Totems? Or are they suggestive of Phallic worship? If so, this argues intercourse with Asia at a remote period.

Figs. 3 and 4 are pestles. These pestles were found on the same field. The upper one is diorite; the lower, green stone. Among the numerous pestles in my collection none approaches these in form and finish.

Fig. 4 is like several in my collection, broken off and worn into a rounded heel-like form not, evidently, in the trituration of corn, but probably in the preparation of pemican. I learn through Mr. I. M. Remley, who spent some years in Washington territory, that the Indians use pestles to pulverize their beef and venison, with a flat stone beneath. In the operation, the blows fall obliquely on the corner of the implement. Hence we rarely find a pestle without a blemish.*

I would here remark that a very large majority of the pestles that have come under my notice, are characterised by an oblique base, probably constructed thus with the above object in view.

Mr. Remley tells me that the western Indians have no conception as to the origin of pestles. They appear to have been passed down from generation to generation from a distant period. Indeed, I have some specimens in my cabinet that bear evidence of remote antiquity. The evidence consists in the disintegration of the feldspar, while the quartz and hornblend crystals stand out prominent, in sienitic and dioritic specimens, leaving thus a rough surface, but very distinct from the effects of the pick or chipper.

Fig. 5 is an illustration of an object of deep interest to me, at least, as it tends in the direction of one of my cherished hypotheses. It was found among gravel on our north west coast. It is clearly

*This remark applies more especially to implements with expanded bases. The bell shaped are exceptions.

water-worn. The perforation, which was made with an abruptly beveled drill, is not centrally located, but remarkably symmetrical. The circular striæ are still faintly visible. The upper margin is worked down to a rounded form. It was probably ornamental.

Many years ago a number of analogous forms were taken from a mound in Warren County, O. Mr. C. E. Blossom secured four of them. This one is a fair average in size and form. My hypothesis looks to our north-west coast for the earliest evidence of man's occupancy of this continent, and Fig. 5 is probably one of them.

I am very respectfully yours,
Alexandersville, O.

S. H. BINKLEY.



OLD WEDGWOOD.

Ed. Museum:

"Old Wedgwood," the unique art production of that unique art period,—the second half of the eighteenth century, takes its name, not, as usual, from the locality of its production, but from its

inventor, Josiah Wedgwood, who, springing from a race of English potters, was born at Burslem, Staffordshire, in 1730,—the youngest child of a large family. His education would probably be that of the yeoman class of his time, and included little more than reading, writing, and arithmetic. Even this came to an end early, for he was apprenticed in 1744. About 1759 he began business alone and in a very humble way, but if his resources were limited, he was not content to keep to the same rude methods of manufacture then practiced in the district. Earthenware, for



domestic use, was then his only production. He not only employed new materials, but made improvements in the form and color of his ware. By the use of new combinations of clay, glasses, and improved firing, he produced a fine pottery, nearly equal to porcelain, to which he gave the name of "Queen's ware," in compliment to Queen Charlotte, one of his earliest patrons. At this early time the pottery district of Staffordshire, now the most extensive in

Europe, was in a rude and unsettled state, owing to the want of roads; the clay and other materials had to be carried on the backs of pack-horses, the finished goods carried to market by the same transport. The nearest turnpike road was at least twenty-five miles from the manufactory. Through his energy and perseverance, the Liverpool turnpike was extended to Burslem in 1763, and soon proved of great advantage to the district. Much of his and his neighbor's manufacture was sent to Liverpool to be shipped to America. Later he was one of the most active supporters of the canal through Staffordshire, and built his new pottery, to which he gave the name of Etruria, on its banks. The biographies of Wedgwood give interesting accounts of his early struggles and triumphs over the difficulties of his art, his worthy, upright character, his connection with the celebrities of his time in art and science. He died, at the age of sixty-five, in 1795, and his epitaph reads: "Who converted a rude and inconsiderable Manufactory into an Elegant Art, and an important part of National Commerce."

In considering Wedgwood's work I must ask my readers to carefully note the difference between "Old Wedgwood" and "Old Wedgwood Ware." Wedgwood's own words (1778) are my authority: "May not useful ware be comprehended under the simple definition of such vessels as are *made use of at meals*? * * *

I am getting some boxes made neatly to show our tablets in. We should use every means in our power to make our customers believe they are not **THE WARE.**" It may be safe to call all the useful, Wedgwood *Ware*,—all the ornamental, or decorative, Old Wedgwood.

Thanks to the appreciation of his Queensware by wealthy patrons all over the world, he turned his attention to the beautiful art-work which is what we understand by the word "Old Wedgwood." This was a distinct creation, nothing like it had been made before him and he says (1789): "But of the improved kind, of two or more colors, and a true porcelain texture, none were made by the ancients, or attempted by the moderns, that I ever heard of, till some of them began to copy my jasper cameos."

Old Wedgwood "Jasper" may be described as a kind of cameo bas-relief, of a beautiful dense material, taking a natural polish by atmospheric action, and capable of an artificial one by the lapidary. It was produced in the form of vases, plaques, portraits, medallions, small cameos, and many decorative articles for mounting in jewelry, in steel and gold, some very choice cups and saucers and tea services, polished inside the vessel, not glazed. The blue and white relief is the best known, but many other colors and combinations were used,—black, green, red, lilac, chocolate, buff. Specimens of these colors are known, but somewhat rare. The charming color is only equaled by the splendid modelling of the reliefs. He was himself a good modeller, but he had the help of the best workmen it was possible to obtain. His designs were from antique gems and more original subjects designed by the best artists of the day,—Flaxman, Hackwood, Webber, Tassie, Pichler, Pacetti, and many others. Subjects were modelled also from designs by Sir Joshua Reynolds, Lady Templeton, and Lady Diana Beauclerc.

The portraits in the jasper body are a very interesting series. Many of the celebrities of his time were produced in this material, and your Washington and Franklin not forgotten.

The busts also include those of antique philosophers and poets, and modern celebrities. These are usually in what is called "black basalte," a dense, hard, durable pottery of fine surface and capable of good effect by good modelling. Wedgwood's greatest work was perhaps his reproduction of the celebrated Portland or Barberini Vase. The original is glass, and cameos, cut from two surfaces. The Duke of Portland lent Wedgwood the original vase to copy in his material, and some copies were produced, known as the "first fifty," the original subscription price being fixed at fifty guineas each. Good copies are very rare and of course much more costly. Each was engraved by the gem engraver, and the result was one of the finest pieces of ceramic art ever produced.

It is difficult to give any description of ceramic work without illustration. In this article you have the portrait of Josiah, drawn by Stubbs, a friend and celebrated painter of his time, and the obverse and reverse of the beautiful Sydney Cove medallion. This medallion is an interesting one. Sir Joseph Banks, the naturalist

of the expedition under Capt. Cook, sent home to Wedgwood some of the clay from "Botany Bay" for experiment. Wedgwood made an exhaustive chemical analysis of the quality of the mineral, which was printed in the Transactions of the Royal Society in the year 1790. This article is entitled "*On the analysis of a mineral*

substance from New South Wales. In a letter from Josiah Wedgwood, Esq. F. R. S. and A. S., to Sir Joseph Banks, Bart., P. R. S.," read April 15th 1790, and occupies fifteen pages in the columns. Wedgwood also instructed Webber to model a subject suitable for the medallion "Hope addressing Peace Art, and Labour." The result is a very beautiful medallion and valuable with the inscription "Made by Josiah Wedgwood, of Clay from Sydney Cove."



The original medallion from which this illustration was taken has just been presented to the Cook Museum, of Sydney, by Mr. Richard Tangye, of Birmingham.

It is to be wished that a complete collection of Wedgwood's works may some time be seen in one at least of your museums before the time comes when it will be impossible to obtain Old Wedgwood; the supply has always been limited, and with new collectors and museums drawing upon the diminishing quantity it is likely to be still more rare than at present. Wedgwood should be represented in every ceramic collection, however small, for it is of a distinct character and stands alone, the only British Ceramic Art without a rival.

FREDERICK RATHBONE.

STONE PADDLE AND COPPER SPADE.

Ed. Museum:

While in Vernon Co., Wis., I obtained a very fine stone paddle, 14 inches long.

I also obtained a fine copper axe or celt in the upper Iowa River Valley, weighing 1½ lbs. It is an unusual form, being shaped like a spade, but the outer edges are much thicker than the inner. It is nicely corroded.

Yours truly,

Address St. Paul, Minn.

T. H.

THE FORT NEAR GRANVILLE, OHIO.

Editor Museum:

There is a fort and effigy mound two miles north-east from Granville. The Fort is composed of a large circular embankment, about four feet high, situated in the woods, to the west of a large meadow, but bounded on the north and south side by a deep hollow, not far distant from a road and orchard, making an imperfect circle about seven hundred feet in diameter, but containing within it a second smaller circle, which is two hundred feet in diameter. The large circle has a gateway fronting to the east, the walls of which run at right angles with the embankment, forming a covered way, about thirty feet long and six feet high, but a continuation of the main wall extends towards the interior about one hundred and twenty feet, making the entrance very long and well guarded. The entrance to the smaller circle is nearly on a line with that of the larger circle, and is twelve feet wide.

Within the smaller circle is an effigy mound in the shape of a butterfly, or double bladed mace, which is eighteen feet wide and forty feet long, but draws it in at the center, making virtually a double mound.

There is within the fort, about one hundred and ninety-six feet north of the circle, another mound, and between the two a deep pit, the height of the mound and that of the circle being about four feet. All these earthworks are considerably defaced by the plow. Trees have been uprooted on the circle, and the top of the embankment is very uneven, making it very difficult to walk along the summit, as the logs intervene, every few feet.

It is a soil that gives way easily, and washes badly. In viewing the fort I was impressed by its apparant age and by its size. Trees—oak, beech, chestnut—were growing upon it, three, four, and six feet in diameter, showing that many generations have grown, flourished and died since the wall was constructed. A solemn silence prevailed in the place, making the forests lonely, but bringing up many thoughts, as to the people who have passed away.

WARREN K. MOOREHEAD.

Granville, Ohio.

MOUNDS AND RELICS IN UTAH.

Ed. Museum:

In traveling over the sand hills and clay hills in this country, I occasionally discover a great deal of broken pottery about them, though whether they are natural mounds, or artificial, I have not been able to determine, as I have never dug into them. The only water to be found near these mounds are two or three water

pockets on a large sand stone which will, after a shower of rain, be full of water, and they will contain probably one hundred gallons at their greatest capacity.

As the road now runs, it passes Navajo Wells to the south of them, ruins are reported, but I have not visited them. Turning at Navajo Wells to the north, we come to Johnson Settlement. Below the settlement are several mounds, from which some arrow points, skinning knives, and a few pieces of pottery in a very good state of preservation, and human bones have been obtained. These mounds have probably been built for burial places, as Johnson Settlement stands in a box cañon. Some very nice specimens of pottery of the coarse, notched kind, have been found in the cracks of the ledges. Above Johnson are some very fine hieroglyphics. At Kanab, 12 miles west of Johnson, are mounds known as Moqui mounds. Occasionally some fine specimens of pottery are found at these mounds.

A few years since, Dr. Edward Palmer dug into one of these mounds, but as he abandoned the work when he had only gone some sixty feet, and had hardly got to the center of it, I presume that he did not find enough to remunerate him for his labor. The washing of Kanab creek at high water has at times exposed human bones in a sand hill two miles above Kanab.

A mound is reported about eight miles south from Pipe Springs covered with pottery and flint implements, but I have not visited that point.

I hope in the future to visit the places above referred to, that I have not visited, and I may be able yet to go down into the bowels of the earth (i. e.) Grand Canon of the Colorado, where a great many ancient Indian signs are reported.

Utah.

WM. SELLERS.

SKELETON FROM A MOUND IN WISCONSIN.

On last Saturday while John McDonald and Eben Fox were engage in repairing the road in front of McDonald's place, it became necessary for them to level off one of the many mounds found along the banks of the Buffalo Lake, and on so doing they brought to light the skeletons of four persons. Three of them were found sitting upright, while the fourth was found lying at the feet of the others, all being in a well preserved state. One of the skulls shows unmistakably the cause of death, the point of an arrow head having penetrated the skull, and extended fully one half inch on the inside; it is broken off close to the skull on the outside and remains firmly embedded in the bone. There is no doubt that they belong to that ancient race of people known as the Mound Builders, whose history is not and probably never will be known. —*Montello Express*, July, 1886.

TABLET FROM OHIO.*

Ed. Museum:

Enclosed find a photograph of a relic of aboriginal art, which I regard as the most important relic in Ohio, of the tablet kind. It is of argelacious shale, but is smoothed down or polished. It shows as great age as the Cincinnati tablet, but harder usage. It was found in removing the earth, preparatory to opening a stone quarry in Union Township, Hancock County, Ohio. The figures are drawn, or countersunk, one-twentieth of an inch deep, and apparently with a pair of dividers. No. 1 represents a six pointed star, two lines to each point, and one extra line,—thirteen in all,—the number of days in the week in the Maya calendar. No. 2 is a circle with a six pointed star in the centre. Within the circle, and around it, there are thirteen sections. The outer section is divided into nineteen sections,—one less than the number of days in the Maya month. The Mayas worship the morning star as typical of the returning day. No. 3 consists of a central circle and a pivot point, and six arcs drawn on the circumference. Leaving out the pivot point there are seven points in the inner circle, and one in each space left by the cutting of the arcs, nineteen in all, or—one more than the months in the Maya year. Nineteen multiplied by nineteen gives three hundred and sixty-one,—one more than the days in the Maya year.

The reverse of this stone has a circle with a four pointed star which probably refers to the four missing, or intercalary days. The historians of the Mayas state that at a certain time in their wanderings, their wise men corrected the calendar. Is this the calendar?

Findlay, Ohio.

WM. TAYLOR.

POTTERY VESSELS IN GLENWOOD, IOWA.

Ed. Museum:

Enclosed please find a photograph of a restored figure of vessel of pottery found near Glenwood, Iowa. When first found the vessel was complete, but before it came into my collection, it had been broken into pieces. It is a dark gray unburned clay, tempered with micaceous quartz.

It was found by a party of workmen in making an excavation for a road through a low bluff or hill under perhaps six feet of "Bluff Deposit" (Loess). A few bits of burned clay and pottery have since been found at the same place. No earthworks in the vicinity.

Glenwood, Mills Co., Iowa.

S. V. PROUDFIT.

*We publish this letter to show what speculations our correspondents are liable to fall into. The letter has been in our possession for several years. Tablets with marks of a compass or dividers upon them are generally regarded as doubtful. This interpretation we certainly consider very curious.—Ed.

REMARKABLY SHAPED PIPES.

We have received photographs of some remarkably shaped pipes. One is called the Beaver-tail Pipe, photographed by Mote Bros., Richmond, Indiana. The following are the dimensions: Length of stem, $10\frac{3}{4}$ inches; greatest width, $3\frac{3}{4}$ inches; height of bowl, 5 inches; diameter of bowl, $1\frac{5}{8}$ inches. Another pipe called the Sugar Loaf, was photographed by J. H. Chandler, Madison, Indiana, which is a large stone pipe, weighing 3 lb. 10 oz. It was found in the river bottom sand, seven miles from Madison, Ind. It represents the human face, with mouth open and eyes closed. The nose is broken or bruised. The stone tapers from the bottom to the top. The bottom is perfectly flat, giving a firm basis for the pipe. The orifice for the stem is in the rear opposite the face. The third pipe is of clay moulded with warts or nipples covering the bowl. The mouth flares out and has a wide rim, and the orifice tapers from the mouth to the hole for the stem. A circular line runs around the mouth on the top of the rim. No other marks on it, but the place for the stem seems to have been broken off. This pipe is owned at West Farms, N. Y. EDITOR.

RELICS IN PENNSYLVANIA.

Ed. Museum:

I have some spear-heads and 275 arrow heads, (had 1,000), some of which are made of jasper, stone, agate, white flint, crystal, and one arrow-head of iron ore. I also have 30 large Indian relics, some of which I have made the several sketches enclosed. I also have 17 Indian beads which were dug out of graves; also tomahawks, axes, etc., etc. All of these relics were found in the eastern part of Berks Co., Penna. I started my collection three years ago. It numbers in all, Indian relics, minerals, etc., etc., about 800 specimens. If it is convenient for you, would you let me know what these large relics are. I have the large relics numbered; if you state the number, I will know what you mean.

Yours truly,

Kutztown, Berks Co., Penn.

EUGENE J. SHARADIN.

Ed. Museum:

In answer to your enquiries in the circular just received, will state that my collection now contains about seventy specimens of Missouri and Kentucky mound pottery—bottles, vases, images, dishes, pots, and one pipe, and one bone needle, etc. Also, about a dozen stone axes, half dozen pestles, some peelers (celts), a few flint arrow and spear heads, and some miscellaneous articles.

The accompanying photo represents a part of my collection of Missouri mound pottery. There are sixty-five pieces in the collection, and not many duplicates among them. The fore central figure, lower shelf, is what I call the "Chinese bottle." Two others in the collection are of the same general form, but differ in each particular feature. Please give me your impressions on the "Chinese bottle."

GEO. W. MORSE.

DOUBLE-BARBED ARROW POINTS.

Ed. Museum.

Doubtless many readers of the AM. ANTIQUARIAN have in their collections, or have seen double barbed arrow points. In my collection I have located four of this type. I found one a number of years ago in Ashland Co., Ohio, badly broken. Its peculiar form secured it room in my collection. About two years ago I procured in Williams Co., of this state, No. 2. Such fine workmanship in so small an arrow I have never seen. Last summer I purchased in Peoria Co., Ill., near Glasford P. O., two arrow points of the above type. Both were found on one farm. The middle barbs on the two last found are not nearly so prominent as are those on the two first.

J. R. NISSLEY.

COPPER BEADS.

A find of copper beads in connection with the skeletons of Indians is reported from Hebron, Wis. We do not understand that the relics were exhumed from a mound but from an Indian grave.

EDITOR.

Editorial.

AMONG THE LIBRARIANS.

The editor of this Journal has had the privilege of recently accompanying the Librarians of the United States on an excursion, and pointing out some of the antiquities of the region traversed. A meeting of the Association was held at Milwaukee, July 8-12. The excursion took in the Historical Society at Madison first, where perhaps is the most extensive collection of copper relics in the world. A pleasant sail over Lake Mendota, brought the party to the grounds of the Insane Asylum, where there is a most extensive and interesting group of effigies, but unfortunately the group was not seen, not being included in the program. The Dells of the Wisconsin were next visited and the rare beauties of the place enjoyed. There are many antiquities of interest in the neighborhood of the Dells, but the party was not able to see them. It was above the bank that Dr. Lapham discovered a square walled enclosure. There is an effigy of a panther, situated close by the steam-boat landing, but this has been nearly destroyed, and the fragment would have escaped observation except as it was pointed out. It was not very far from the Dells that the celebrated battle with the Black Hawk took place. It was called the battle of the Wisconsin Heights. This was opposite Prairie du Sac. There are also at Baraboo, some ten miles from the Dells, many effigy mounds, but the points were too distant to be reached at this time.

La Crosse was another point where there are interesting tokens. The Pictured Cave at West Salem, is but ten miles distant. There are effigies also in the public park. At Trempeleau, on the Wisconsin side, there are also many effigies. The name La Crosse is suggestive of early explorations. It was here on the level prairie that the Indians formerly practiced their celebrated game of ball, to which the French gave their name, La Crosse, owing to the stick which was used in catching the ball.

At La Crosse, some of the party had their first view of the Mississippi river. It was however, not especially inspiring or beautiful. The native wildness has disappeared, and the loveliness of the stream is now marred by the inventions of men. Unsightly mills, lumber yards, and a vast amount of rubbish cover the soil where formerly the wild wood and silvery waters

almost an Eden of Beauty. It was near La Crosse that we came in sight of the interesting peaks or rock which so resembles a vast dome arising out of the water, and which has given the name of Trempeleau to the locality and the village adjoining. This has always been a land-mark, but it is better seen from the deck of a steam-boat than from the window of the cars. On the west side of the river the route lay through many villages which perpetuate Indian names, and which bring up associations of Indian history, such as Waubesha, Winona, Red Wing, Pepin, and others, all names of Indian chiefs. The name Winona also perpetuates a myth or story. It was on the bank of Lake Pepin that Winona, the Indian maiden is supposed to have had her home. Maiden Rock is still pointed out as the place where she took the fatal leap, called the Lover's Leap.

The railroads, however, are taking away the poetry of the region. The view is so hasty that one has no opportunity for poetry in his thoughts. The tradition merely comes up to mind and then passes away. When it was the custom to travel by steam-boat, everything was favorable to romance, but the beauty of the scene and the romance of the story have been sacrificed to the haste in our methods of travelling.

It was along this same river that General Pike led his party of explorers, and visited the villages then existing. His map has located many villages and ancient mounds, which it were well if the archæologists could identify at the present time. There are, to be sure, mounds at Waubesha and Red Wing, some of which have been described, but the work of identifying these with the locations described by the early explorers has not yet been done.

This work has heretofore been left to private individuals to be done at their own expense, notwithstanding the amount that has been laid out by government for mound explorations. In certain proto-historic points, next to nothing has been accomplished. The person who has the charge of the work, does not seem to think that there is any importance to these Western and North-western regions, but the expenditure must still be bestowed upon the same old region where there is a prospect of securing relics for the museum. Parties are still sent out to dig into mounds,—parties who are just fitted for digging, but no person of intelligence has been sent in this region to explore. Archæologists who were near the field, do the only work there is done and that at their own expense while the parties at Washington remain in ignorance of what pre-historic tokens the regions present.

The ethnological map of this region should certainly be made. The location of the mounds and Indian villages should be ascertained now before the tokens have disappeared, but as a substitute we have a list of mounds compiled from the books already published, and no new localities are visited, or put upon the record.

The enquiry came up in connection with the names of the villages, whether there was any way of ascertaining the meaning of these names. This is a very practical subject, and one in which the public is greatly interested. The answer, of course was at hand. It takes a very considerable knowledge of the various Indian languages to know the meaning of these names. This knowledge is possessed chiefly by the gentlemen who are engaged by the Ethnological Bureau, but they have not given much attention to the subject.

The history of the tribes formerly located on the head waters of this river is still unknown. It is even uncertain as to what tribes formerly prevailed here. It is known that the Sioux occupied the region west of the river,—that particular branch of the Sioux which goes by the name of Md-Wakans. The Winnebagoes, also a branch of the Dakotahs or Sioux, are known to have occupied the region east of the Mississippi river, and north and west of the Wisconsin river. This tribe bear in their name the trace of their origin. The names in the early Jesuit relations was Ouinepeag, or Winnepeg. They were called by the French, des Puants or the Stinkards. This was owing to the tradition which prevailed among them that they came from the salt sea, or the stinking water. By placing the name and tradition together, we have Winnipeg or Hudson's Bay as their original home, but the region east of the river has been traversed by two or three tribes; the Foxes, after the time of their defeat by the French, and by the Ojibways after their migration to Lake Superior. These tribes were, however, intruders, and there is no doubt that the region on both sides of the river, as far, at least, as the Wisconsin river, was possessed by the Dakotas. The Winnebagoes were the last aborigines in Wisconsin; their villages were scattered over the whole state. They retired from the region late in history. The tokens found in the state should be studied in connection with their history.

At Saint Paul the party was welcomed to the Library of Minnesota by E. F. Williams. A marvelous growth has taken place in this library. It was destroyed by fire only a few years ago, but now fills many alcoves in the two stories of the capitol building.

This was the fourth library which the party was permitted to visit; the first at Chicago, the second at Milwaukee, the third at Madison. Two of them, that at Chicago and this one at Minneapolis, have arisen, phoenix-like, out of the fire. Libraries are not the only, or even the chief source of information to archæologists. Cabinets and field work are also essential. This is the encouragement which the western man has in his field. Realizing the value of large libraries, and appreciating the sympathy of the librarians, who constitute a sort of Third House in the Congress of investigators, but knowing that original

search requires men to go into the fields about which, little is known the western man enters into his work even when these libraries are difficult of access. Proximity to the fields, familiarity with the relics, acquaintance with native races, are as important as the ability to ransack the shelves of a library.

It is remarkable how little of pre-historic Archæology is contained in western libraries. The outlay has been mainly in the direction of local western history, and this is well. But we know of one library which has spent thousands of dollars on the different editions of Shakespeare, and yet not a Shakespearian scholar, or at least one who has any reputation as such, within a thousand miles. It is a mere craze or fashion that would put so many editions of Shakespeare into a library and leave the department of Archæology so meager.

There is a correlation between libraries and histories, especially at the west. Historians seem to find lodgement along side of librarians. But with archæology the case is different. The work is done single-handed and with little aid from any source; not even the companionship of fellow archæologists.

At Chicago, Mr. A. R. Poole, the author of Poole's Index, is attended by Mr. R. Blanchard, who has written several compilations of early history. At Madison, Mr. L. Draper, the author of *The Battle of King's Mountain*, is attended by Mr. C. W. Butterfield, the author of many books on Western History. At St. Paul, Mr. E. Fletcher Williams, the Librarian and Editor of the series of Historical Reports, has as an associate, Rev. Edward Neill, who has written many works on history.

Vast sums have been expended on local histories, but the only valuable part of those histories has come from the few professional historians whose names we have given, but who have given diligent study to the points before them, and who have risen above the temptation to write cheap books for extravagant prices, discriminating between those who have made history and those who pay for it. There is one advantage, however, in the local histories, the pioneers will be known, and their names will be perpetuated.

If western librarians had spent more in gathering early maps and works on archæology and aboriginal history, and less on county histories, they would be better equipped than they are. It is impossible to find many of the expensive books on Archæology at the west, and yet enough has been expended on these county histories to furnish all that is desirable in this department.

The excursion led from St. Paul, Minnesota, to Ashland, Wisconsin. The growth of Minneapolis and St. Paul was made manifest by the contrast between them and this city of Ashland. Here rough society, rude surroundings, the saloon element in the ascendancy, ignorance and vice prevailing without stint; a journey of a hundred miles or more brought the party from the

highest and most advanced tokens of modern art, and from the evidences of culture and intelligence to the roughest condition of pioneer life. The contrasts, however, show through what stages civilization may pass, and how the rude and rough precedes the cultivated and improved. Will this be the case with our country at large. How long will it be before the saloon element will lose its control and the better elements of society come to the front. Society in Ashland is phenomenal, but it is such as would prevail throughout the west if saloonists had their way.

The opportunity was here given to visit some of the localities which have been made memorable by the exploits of the early Jesuit Missionaries. It was on the main land at the head of Chequamegon Bay that Allouez established the first mission in Wisconsin, or west of the Lakes. Menard preceded him at Keweenaw Point, but did not establish a mission. Menard came in 1660, Allouez came to this point in 1665, Marquette in 1668. The guide books say that Marquette established his mission at La Pointe on Madeline Island, and refers to the chapel standing there as if built by him, and speaks of the painting which was brought over by him. Marquette was not the founder of a mission in Wisconsin at all. The chapel which he occupied was but a bark hut, erected between three Indian villages on the main land. The mission was deserted, and for 170 years there was no chapel and no missionary, but the name La Pointe de Sprit was perpetuated. It was, however, transferred from the main land to a point on the island, and tradition fixed upon that place as the site of the mission. The present chapel was erected about 40 years ago. There is, however, a chapel in the rear of it which is a little older, and was erected by Father Baraga, the noted missionary of the region. The history of this mission has recently been written by Father Chrysostom, a monk who was driven out of Germany by Bismark. He has spent much time in gathering the facts. They will be presented to the public soon. La Pointe has two chapels; one formerly occupied by the Presbyterian mission, the other is the chapel referred to above. It is worthy of note that a school was established here by the American Board of Foreign Missions, and that in that school, Mr. Warren, the half-breed, whose work has recently been published by the Minnesota Historical Society, began his education. The mission has been abandoned, but the effect of the school has been felt, and this is one product of it. It was doubtless owing to this mission that the fur-traders, who came so early into the region, were able to give their children advantages. The old French voyagers have passed away. Of that peculiar type of civilization, which arose at the west when the French traders mingled with the Indian tribes, and the mixed race formed a population of itself, scarcely a vestige remains.

The missions on Madeline Island, both Roman Catholic and Protestant, were both established when this population was somewhat numerous but when the fur trade ceased their occupation was gone. A few graves by the side of the church contains the remains of many of them but there are no living representatives. The French have given place to German and other foreigners. The Indians have been gathered in reservations on the main land, and the ordinary visitor to Ashland finds no trace of the Jesuit Mission or of the French and Indian population, and would hardly be aware that this was the first point where missions were established. There are reservations at Bayfield, Lac de Flambeau, Lac de Cortecilles, and here, bands of Chippewa Indians can be seen, if one takes the pains to reach them.

Odanah is a point on the Bad river ten miles from Ashland. Here is the station to which the Protestants moved their mission in 1840. and here there is a Protestant church with a half-breed as a minister. Some of the party spent the Sabbath among these Indians at Odanah. The singing was in the native language. It was peculiar, resembling in its monotonous drawl, the drone with which the natives were accustomed to sing their melancholy dirges at the graves of their dead. There is a plaintive and melancholy air to all Indian music. The flutes formerly used by Indians were plaintive, pitched upon a minor key. So the tunes sung by these Christian Indians, though common and familiar, were very different from the same tunes as sung by white men; so different that it took a number of experiments for the excellent singers who were in the party to catch the time and tone and bring themselves into harmony with the native voices.

The cemetery was the most interesting place. Here was a mixture of Pagan and Christian symbols, of primitive and modern architecture. The clan totems are perpetuated, but in the same ground where these totems are the cross, and other Christian symbols appear. We did not ascertain whether the totems were on pagan graves, and the crosses on Christian graves, but think that they were indiscriminately mingled. Paganism strangely survives even among Protestant Indians. There were little houses over nearly all the graves,—houses 6 ft. long, 4 ft. wide, and about 4 ft. high. They were built with shingled roofs, the roofs projecting over the sides and ends. The gable ends were sealed up and on the matched boards were pieces of carved wood painted in different colors in the shape of fish, birds, cranes, or hawks, which were the totems of the Chippewa clans. Below the roof, the houses were left open except as four posts supported the roof. A floor is placed at the bottom. This open space is supposed to be the dwelling place of the spirits of the dead. Free circulation is given to them to come and go as they will. Below the floor there is a large drawer. In this the food which has been offered to the spirits by being placed on the floor, is

deposited when mourners leave the grave. The superstition still prevails among the Indians about the state of the dead; the spirit needs to be furnished with food and all that the person delighted in and used when living. The Chippewas still keep the dog feast. We saw little fat puppies which were destined to sometime furnish the materials for such a feast to these semi-civilized-pagan-christianized Indians. We visited the house where the feasts are observed, a rude structure boarded up but with cracks between the boards; a roof above but nothing to protect from wind or cold. The superstition is such that when the dog is cooked for a feast, a part must be buried for the use of the dead, the rest eaten by the living. A large amount of money has been spent upon the Chippewa Indians, but to all intents and purposes the majority are pagans still. It has been thought useless to continue the mission longer, the property has been sold, though a school which has partial support from the Government is continued. The Catholic mission is more flourishing and will probably continue.



EXTRA-LIMITAL ANIMALS AND MOUND BUILDER'S PIPES.

The discussion on extra-limital animals was begun in one of the early numbers of the present volume of the *ANTIQUARIAN*, but has been suspended for a time. It will be remembered that the occasion for this discussion was the paper by Mr. W. H. Henshaw which was published in the *Second Annual Report of the Ethnological Bureau*. This paper drew out the pamphlet on Elephant Pipes and a supplement from Mr. C. E. Putnam, the President of the Davenport Academy of Science which we have reason to believe has been very extensively read. We also took issue with Mr. Henshaw and wrote a review of his article quoting extensively from Squier and Davis, but said nothing about Elephant Pipes. We also published the reply by Mr. Henshaw, but delayed the response to his letter until the present time for various reasons. In the first place we were convinced that the elephant pipes should be thrown out of the case, as they are of very doubtful character; they may be genuine or may be not. An intimation to that effect unfortunately brought us into controversy with our quondam friends, the members of the Academy of Science. We were sorry for that but in as much as we were in for it we concluded to go through until the truth, so far as can be ascertained, was made known. In the second place, we had not the evidence which we wanted. The evidence is accumulative. The carved pipes which are held in the various cabinets of our country may prove one thing

another according as they are examined. We take the ground that a collector who has gathered relics and made himself familiar with them, is as capable of deciding about the resemblances which may be recognized in them as the naturalist is, who has only plaster casts to examine. The opinion of collectors on the point was therefore important. No authoritative dictum can be put forth to decide the question. An assertion is of no value unless attended with proof.

Third, the illustration of the subject required other engravings. We had at the time photographs of certain pipes, which

furnished an additional proof. Photographs are better than casts, in our opinion,—better than engravings, but engravings may illustrate the point.

The specimens which we now have in mind confirm these positions, and show that the skill of the mound-builders was greater than our author was willing to acknowledge. It matters not, whether every specific kind of animal and bird was indicated by them, there is sufficient definiteness in the construction of these imitative forms to show the difference between extra-limital animals and those which are not.

That is all we have undertaken to show. We leave the matter of elephants and other such foreign animals, undecided for the present, but take up the question of the toucan and the manitu again.

There seems to be a doubt on nearly every relic which contains the elephant figure. Until this doubt is removed, we leave such relics, out of the question. We have taken issue with Mr. Henshaw on the matter of close resemblances in the animal carvings, but of course must consider only those carvings which are known to be genuine.

1. One new specimen which we bring in, will be the mound pipe from the Davenport Academy of Sciences. This was



Fig. 1.—OTTER PIPE.

figured by Mr. E. A. Barber in the "Continent," Vol. 3, No. 60, April 4, 1883. See Fig. 1, also Fig. 2.

This specimen shows that the difference between the manitu and the otter, was recognized by the mound-builders, and it was depicted on the different pipes. In the first place the shape of this animal is entirely different from that of the manitu represented on the pipes now in the Blackmore museum. The differences are as follows: (1.) the back of this animal is rounded up, that of the manitu is on the incline, as is natural with that creature; (2.) this animal has hind legs, but the manitu is represented without hind legs; (3.) this animal is represented with its fore legs erect, claws and feet flat on the ground or stone; (4.) the head, eye and mouth differ entirely from the manitu.

2. The specimen shows that the mound-builders were familiar with the habits and attitudes of the two animals, and were skillful



Fig. 2.—MANITU PIPE.

in representing them. (1.) It shows that this animal, the otter, was accustomed to slide along on its hind feet with the body partially raised, but that the manitu was accustomed to slide on its belly. (2.) It shows that this animal was accustomed to stand and watch for fish, the eye, mouth and fore feet indicating this very plainly, the manitu being an herbivorous animal, never was represented in this manner, but was frequently represented with head erect, and with the large mouth and nostril stretched out horizontally. See cut.

3. If the naturalist can not recognize the difference between a carnivorous and herbivorous animal in these two specimens of carving, he has not as good an eye for nature as the mound builders had. The manitu was represented by the mound builders as resting upon the joint in the fore leg, and folding its hand-like paws in front of its breast, and on this account it was called the manitu. The otter never put itself into this attitude. The difference between the otter and the manitu could not be recognized by the naturalist when only the fore parts of the

animals were represented in the pipes. We would like to ask if he recognizes the difference now.

II. We give as a second specimen the bird pipe which was formerly in the possession of Wm. M. Anderson, of Circleville, Ohio, the photograph of which we have (Fig. 3).

1. We first call attention to the shape of this bird and the comparison of it with that of the so-called toucan in the Ancient Monuments. It will be noticed that it has 1. a short body, 2. a long bill, 3. short neck, 4. short wings—all of these peculiarities of the toucan, and, so far as the specimens can contain them, peculiarities also which are represented in the so-called toucan pipes. The difference between this bird and the birds



FIG. 3.—TOUCAN PIPE.

which are common in the Mississippi valley, may be seen by comparison between it and other pipes which are described. It differs from the hawk, the buzzard, the cherrybird, and the woodpecker. No one would mistake it for any of these creatures. We present along with it the cut of a pipe which represents the woodpecker. This cut was used also by Mr. Barber in the same number of the *Courier*. He speaks of it as a black slate pipe from

New York. It is quite rude, but, notwithstanding, represents a bird very different from the one just figured. We should say it was the woodpecker. Fig. 4.

There is a woodpecker pipe depicted in the Ancient Monuments (fig. 179). In that specimen the bird is represented as sitting upon the pipe as a base, and the wings and bill are horizontal, parallel with the stem. The shape of the bird is given in both specimens. If the likeness is not perfect, yet the difference between these specimens and the birds which we suppose represent the toucan is so great that we have no difficulty in deciding upon the point.

2. The habits of the birds, are indicated by the carved pipes. The habits of the toucan as a domestic bird was referred to. There is no additional evidence on this point. The woodpecker would not, however, be taken as a tame bird, and we think this difference between the two birds can be recognized in the figures.

III. As to the probabilities of the case, we see no reason whatever, why the Mound Builders should not be familiar with creatures which abounded in the Gulf of Mexico, and it is not difficult to suppose that they knew something about the animals and birds which abounded in Mexico.

1. It seems to so accord with the conclusions which archaeologists have reached in reference to the extensive migrations and

journeys of the natives that it struck us with surprise that any one should doubt the point. (1.) The tribes were not so isolated as some suppose. The white settlers know that tribes are very much mingled on the frontier. Representatives of many different tribes will be found at the various forts. It was so at the Jesuit missions, and it is so at the present time. (2) The Shawnees are known to have traversed nearly all of the eastern part of the

Mississippi valley, and left signs of their migration in names and other tokens from the head waters of the Mississippi river to the Gulf of Mexico, and from the Susquehanna to the mouth of the Tennessee. The Iroquois also traversed the country from the north-east to the south-west, and left their names upon the early maps as the great conquerors. The Foxes as fugitives fled from the mouth of the St. Lawrence to the mouth of the Wisconsin and Rock river.

2. Prof. F. W. Putnam maintains that he has found the traces of several different races, in the mounds of Tennessee. Judging from the appearance of the skulls in the mounds, he reached the conclusion that there were several tribes which were dwelling together and which were buried



Fig. 4.-WOOD-PECKER PIPE.

together in the stone graves. Recent investigations in the mounds of Ohio have revealed more than one era of deposit, and more than one class of tokens.

3. The Mound Builders carried on an extensive aboriginal trade. This is evident from their tokens. Pueblo pottery is

found in the mounds of Missouri, mica from the mines of North Carolina in Wisconsin, copper from the mines of Lake Superior in the mounds of Ohio, Obsidian, either from Mexico or from the north part of the Rocky Mountains, is found in many localities. The Pipestone Quarry in Minnesota was probably visited by Mound Builders from many parts of the country. Nests of flint implements, from flint ridge in Ohio, are found in Illinois. Dark colored flint relics, leaf shaped, from Ohio Falls, are found in many places in Illinois and Wisconsin. The evidences of an extensive aboriginal trade are numerous. Of course the trade would not necessarily include carved relics, like Mound Builders' pipes, but it might include tame birds, such as the toucan, and if not it would favor acquaintance with the birds and animals of the distant countries.

4. So many different objects are found in the mounds it does not strike the archæologist as strange at all that there should be extra-limital animals represented in the carved pipes found in the mounds. The difficulty is to eliminate extraneous objects from those which may be regarded as autochthonous. Relics which had their origin in a particular country have to be separated from those which are extraneous, if we would understand the cultus of the people; but the waifs are often instructive, showing that the Mound Builders were acquainted with people dwelling at remote distances from them, and that the broad country was traversed by them.

5. The traditions, descriptions, and stories which met the early explorers show what an extensive acquaintance there was among the early tribes. Champlain made a map of Lake Superior and Green Bay from descriptions given him by natives. Marquette sought the upper Mississippi because he had learned of it from natives. Ferdinand De Soto wandered far to the north and west, led on by the stories and traditions, and representations of the natives. Cabeza de Vaca went the whole length of the Gulf states, and far to the north-west, because of the tradition of the seven cities of Cibola. Still earlier the Spaniards from Mexico under Coronado went through the cities of Cibola, and reached the mysterious and unknown region of Quivira, supposed by some to be in Kansas. Every evidence then favors the idea that Mound Builders were familiar with objects of art far beyond their own territory.

LITERARY NOTES.

BY THE EDITOR-IN-CHIEF.

*THE AMERICAN ASSOCIATION.—The meeting of the Association at Buffalo was attended by some of the best ethnologists in this country, and was an interesting session. The papers by Dr. D. G. Brinton and Mr. Horatio Hale have been heartily commended. Mrs. Adolph Pinart also read a startling paper on the phonetic character of the Maya Hieroglyphs. Rev. J. Owen Dorsey read an interesting paper on "Secret Organizations among the Osage Indians;" Mr. J. W. Sanborn, "Observations on the Iroquois League." Mr. H. C. Stone on "The Sacrificial Stone of the Dakotas." Mr. Geo. F. Kuns, "Four Gold and Silver Ornaments from Mounds in Florida." Mr. F. W. Putnam on his exploration of Mounds in Ohio.

THE SMITHSONIAN ANNUAL REPORT for 1885, will contain two volumes; one relating to the work of the institution, the second to the work of the national museum. To make the work complete, and represent all departments, there should be a third, devoted to the Ethnological Bureau. The classification would then be complete, and it would be understood why the Bureau's assistants are expected to work for the national museum. Appropriations are made every year by congress for the purpose of carrying out ethnological explorations and studies. There seems to be an expectation that every exploration must yield relics for the national museum. This being the case, we should suppose that a report of the Smithsonian would embrace the work done by the Ethnological Bureau. The Smithsonian has done, and is doing an excellent work in publishing monographs under the title of 'Contributions,' and in exchanging the pamphlets, books and reports published in other countries. The national museum has an immense amount of archaeological relics, and is gathering them rapidly from all parts of the world. The Ethnological Bureau seems to have for its object, the scientific field work.

The Bureau is really a branch of the Smithsonian; the field work is nominally under the control of the President of the institution, though it is at present under the control of the director of the Geological Survey. There is one advantage in keeping the Bureau under the control of the president of the Smithsonian and that is, that the purpose of the founder,—Smithson,—can be more easily and fully carried out, and the Bureau would be free from the annoyance of an annual investigation by a committee from Congress. The great drawback, however, is that the department of science, which is the most rapidly advancing, and which needs the immediate attention on account of the perishable nature of its data is subordinate to the department of geology.

The appropriation of Congress to the Ethnological Bureau, is \$40,000; to the Geological Survey \$400,000. Should there be so much difference? We claim that archaeology is important, too important to be shoved aside with so small an appropriation. The field covered by the Ethnological Bureau, is equal in size to that covered by the Geological Survey. There are more divisions, and more topics, embraced under the general subject of ethnology, than can possibly be brought up in connection with geology. They are, (1), Languages; (2), Myths; (3), The history and location of tribes; (4), Mounds and Mound-Builders; (5), Art and Architecture; (6), Symbols and Customs. Each one of these departments requires specialists who shall study carefully and critically the tokens.

One can understand how many slices must be cut off from the public loaf in order to supply the demands of so many workers as must necessarily enter these different departments, and how small a portion each one of the earnest workers receives. We maintain that the contrast is so great between the amount, bestowed by congress upon the Ethnological Bureau and the Geological Survey, because of the anomalous condition of the former.

*An account of the Progress of Anthropology, in the year 1885, by Prof. Otis T. Mason, the Smithsonian Report for 1885.

TRADITIONS OF THE ABORIGINES OF AMERICA *—Rev. M. Eells' article on the worship and traditions of the Aborigines of America, has for its object, to show that there are traces of bible traditions in this country. The article is very fair, giving the evidence on both sides. The author takes the position that there is a knowledge of the Supreme Being among the natives, and that the terms of the Sun, the Manitou, the Coyote, the Old Man Immortal, the Culture Hero, &c., are accommodations, the conception being correct, but the imagery being borrowed from the nature worship.

He considers man's immortality as a commonly accepted doctrine. The future abode was, to be sure, a material place. Resurrection he maintains, was a belief of the Peruvians, and that the practice of embalming bodies was owing to this belief. The relations between man and the superior beings of the other world, is a topic on which the author dwells at length. On this there may be a difference of opinion. There is no doubt but that creation was the work of supernatural beings, and that the idea of Providence was in a sense common among the aborigines. The tradition of a deluge is well nigh universal. In this the bible narrative may be recognized. We cannot account for the universality of the tradition unless this is the case. The question however, is whether it was for sin or disobedience to God, that the deluge was sent. The moral distinction is denied by some, and the tradition of the flood is shorn of its significance, sin never having come into account among the natives. The testimony of missionaries on this point is perhaps as reliable as any other.

The idea of a saviour is recognized in the tradition of some of the culture heroes, such as Montezuma, Quetzacoatl. The author speaks of Dokibatl, the the Changer of the Tinnehs, and Clallams, as possibly embodying the idea of the Saviour, since these people say that Dokibatl was the son of God, and occasionally called him Jesus.

The subject will bear further investigation. The main question is, whether sacrifices were practiced as atonement for sin, and whether the idea of a saviour was ever connected with them? Are sacrifices connected with the names of the culture heroes? Do they typify the work of the heroes?

ANCIENT COINS IN WISCONSIN.—Dr. J. D. Butler has, from time to time, described the discovery of coins in Wisconsin. The last one mentioned is a copper coin minted in the reign of the Emperor Hadrian, but found in Oshkosh, Wis., near Miller's Point on the shores of lake Winnebago. It is quoted as a proof of a commerce, between Asia and America, in pre-historic times. "The passage of coins from Alaska to Oshkosh," etc. It may be well to state however that a coin found at Milton, about which Dr. Butler has written was taken from a coin collector's cabinet by a boy, and lost on the street. A silver coin belonging to the times of Antoninus was dropped from a sleeve button by the editor, and is some where in the soil of Clinton. Possibly at some future time this may be discovered and quoted in the same way. It is said that stone axes were found in the same field, but stone axes and ancient silver coins do not often go together.

BABYLONIAN SEAL CYLINDERS.†—Dr. W. H. Ward, when at the East saw two Babylonian Seal Cylinders, which he thinks belong to a period from three to four thousand years before Christ. They represent a flock of goats, a gate, a man astride of a bird, a kneeling man holding a tablet, and a seated man before a vase.

We doubt whether tablets were used, three thousand years before Christ, and there is nothing about the seals, so far as we can judge from description that would indicate such great age.

COPPER COINS OF AKBAR—Narnaul was well known for its copper mines. These mines are not, so far as we can ascertain, very ancient. The coins are mainly Mohamadanized and therefore of comparatively late date.

The second article is on Antiquity, etc., of the epoch called the Rithi Raj

*Journal of the Transactions, of the Victoria Institute, or the Philosophical Society of Great Britain, Vol. XIX; No. 76. Article by Rev. M. Eells, read May 18 1885.

†American Journal of Numismatics; page 9.

‡American Journal of Archaeology, Vol. II, No. 1., Page 47.

§Journal of the Asiatic Society of Bengal, No. 1.

Rasa, commonly ascribed to Chand Barbai. This is said to be not genuine. The article refers to some inscriptions on rocks and on slabs. These inscriptions are historic, dating 1332 and thereabouts. The value of the article is that it shows the thought of the period, and shows how heathenism, animal worship, and clan system survived in India up to that date, and in fact survives up to the present time.

SYMBOLISM ON INDO SCYTHIAN COINS.—The "fillet," the "noose," the "cornucopia," the "naga," snake, and the "footstool," are symbols on the Gupta gold coins. Mr. W. Theobald however, makes a distinction between the "fillet" and "noose." He says the "fillet" is the same as the wreath on the classic coins, but the "noose" is a phallic symbol, the same as the "sistrum" of Isis, typical of fruitfulness.

The "fillet" is found on coins in five distinct positions. (1) in the hand of Nike or Victory, (2) encircling the king's head, (3) on a standard or javelin, (4) on the head or in the hand of a figure in the reverse of some coins, (5) occupying the reverse as a wreath.

The "noose" is found in the hand of the goddess, seated on a lion, (2) in the hand of the Indian, Siva, or his consort, "Sakti," throned on a lotus. It has no symbolical connection with the "fillet" on Greek or Roman coins, but is a feminine symbol analogous to the "sistrum" of Isis.

The "cornu-copia," as found on Indo-Scythian coins, is the symbol of good fortune, and abundance, as it is upon the Roman coins. It is however frequently perverted on the Gupta coins into a phallic symbol, the serpentine termination of it, made to represent the snake's body, and the mouth, or open part, made to represent the snake with distended hood. In some cases this cornu-copia—snake—is seen in connection with the goddess Ardōchro. The snake's body comes round to the front, crosses the lap of the goddess, and depends on one side from the left knee. This tendency to change the symbol, and make it conform to this phallic and serpent worship, is seen more distinctly in what is called the "footstool." Instead of the lotus the cornu-copia is used, but the female is represented as sitting on a high-back chair with her feet on a footstool. The "stool" resolves itself into the terminal coil of the snake's body, and represents the solid earth, bounded or encircled by a fold of the mystic snake, or "Naga."

THREE HEADED OR FOUR-HEADED IMAGES.—Mr. W. Theobald makes a good point, in his article just referred to, entitled, "On Certain Symbols or Devices, on the Gold Coins of the Guptas."* He says: "It is usual to speak of the polycephalic Siva, as three-headed or three-faced, but this view is hardly supported by the coins, or any necessity of Hindu mythology. On the coins, this form of Siva or "Okro," is represented not as though it were the artist's intention to represent three, but rather four heads or faces. What is depicted is, a full face in front flanked by two faces in profile and with obviously room behind for the fourth face, such an ideal figure corresponding very exactly, with the well-known four-headed "linga."

Siva, though a polycephalic deity, is not one whose mythological attributes, like Diana's "Tria-virginus or a Dianæ" necessitate a triform conception of his person and therefore the image on the coins of Ooerki and Bazleo, may fairly be regarded as representing not three but four heads. Had the artist wished to represent the god in a triform shape, he would have produced a figure resembling that of Janus, with two faces, neither of them in full profile, but this he never attempted."

MAN OR MONKEY.—A discussion has been going on among the French archaeologists, whether the worked flints which are found in the tertiary strata, eocene, miocene, pliocene, were wrought by man or by his precursor, "anthropithecus." M. de Mortillet maintains the latter opinion, that they are the work of the precursor of man, but several other archaeologists hold that they are not the workmanship of man at all, or of his precursor, but are accidental, crackled by fire and fractured by natural causes. Inatrefages admits that

*See Journal of the Asiatic Society of Bengal.—Vol. IV, Part I, No. II, 1885.

man could have lived in the tertiary and adapted himself to the geological changes, though he says that of the mamalian fauna belonging to that time not one species survives, and the study of the quaternary gravels, render the assertion exaggerated. We conclude from this that paleolithics" have a long process to go through before they will become settled.

THE DESCENT OF MAN.—Prof. Cope says: "There are some things in the structure of man, and his nearest relatives, the Chimpanzee, Orang, etc., that lead us to suspect that they have not descended directly from true monkeys, but that they have come from some extinct tribe of lemurs."

Prof. Morse, also says: "The troublesome fact confronts us, that we find the evidences of man associated with extinct apes, and the gap between them is by no means closed in the earlier horizon's." Clinging to the exploded evidence of the Engis and Neanderthal skulls, he says: "The earliest remains of men have the most pronounced ape-like features. We maintain that there has been a great deal of assumption in this argument about the ape-like man, and that the assertions will need to be substantiated by more undisputed facts, before hasty generalizations will be accepted.

***ANTIQUITY OF MAN.**—Prof. Morse said, in his address at Philadelphia: "The theological barrier denies high antiquity. It rested solely on the fact, that it was in direct conflict with Mosaic cosmogony, and yet this barrier is unsupported by the faintest scrap of evidence," yet he says: "We meet with a difficulty, which unfortunately, accompanies the remains of man, and those creatures which have an affinity with them." "The conditions have rendered the preservation of their remains a matter of chance." "The conditions of life which characterized early man and his associates render the preservation of their remains a matter of extreme improbability." "It was evident that this discovery of the remains of early man, or rather of primitive man, is highly improbable." We would ask Prof. Morse what the barriers to the study and knowledge of the antiquity of man, really are? The Mosaic cosmogony, or the improbabilities of science.

"Chief among the agencies in destroying the evidences of man have been the glacial floods, and these, if the glacialists are right, have occurred, one, during the pliocene, and the other at the beginning of the quaternary. To these overwhelming and annihilating ice torrents, grinding, sweeping and inundating the north temperate zone, must be attributed the almost complete obliteration of records we hold most precious.

THE CEPHALIC INDEX.—We are happy to know that the craniologists have abandoned the idea of making the shape of the skull a test for the grand divisions of the human family. The last application of the cranial index results as as follows:

I.—WHITE RACES.

Dolicho.—Anglo Scandinavians, Franks, and Germans, Finns of one type, *Mediterranean*.

Mesati.—Semites, Berbers, Egyptians.

Brachy.—Celts, Slaves, Ligurians, Lapps.

II.—YELLOW RACES.

Dolicho.—Eskimo, ancient Tehuelches, some Americans, Santa Barbara, *Micronesia* here and there, Melanesians.

Mesati.—Polynesians.

Brachy.—American type, Alaska, Siberia, Mongols, Mantchoos, Indo-Chinese, Dravidians, Tibetans, Malay.

III.—BLACK RACES.

Dolicho.—Australians, Veddahs and congeners, typical Melanetan, African *Negroes*, Bushmen.

Mesati.—Tasmanians, Mandingoes, Havussas.

Brachy.—Negritos of Malaysia and the Andamans.

*See Proceedings of the American Association, Thirty-third Meeting, Sept. 1884, page 123.

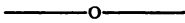
WINGED CIRCLES.—Rev. Dr. Ward has seen photographs of a monument found in Asia Minor, fifty miles north-west of the ancient Iconium, which he thinks belong to the primitive period which we are now coming to call "Hittite." It will be seen that an immense winged circle, here a half-circle, typical of the supreme Deity, and cut in a single block, spreads its general protection over all the figures represented. The wings are very long, and show the wing covers separate, and are turned up at the ends. Beneath the central part of this winged circle, on a single stone are two other smaller circles, the wings of which meet. The circle is complete, the wing covers do not appear, and the short wings turn up strongly at their ends. Beneath the center of each of the two minor winged circles is a colossal human or divine figure, the left one of which wears a long pointed cap, and lifts the arms straight up on each side of the cap. Ten smaller human figures are seen, symmetrically arranged and holding up their two arms as if like Atlas, supporting a universe.

PROCEEDINGS OF THE A. A. A. S.†—The value of the periodicals which are published in this country on scientific subjects, is illustrated by this report. Two years ago papers were read before the A. A. S. at Philadelphia. Those papers which have not been published in the journals have just come to light. In the meantime discoveries have been going on, and many of these papers are out of date. Science has advanced beyond them. We are happy to notice that this point is recognized by the secretary, and foot notes are placed below the titles as follows: "These papers will be published in the reports of the Peabody Museum. "These papers will be published in the American Anti-quarian," etc.

The proceedings are indeed a repository for very valuable articles, and as books of reference they are very essential to every scientific man. The only criticism which we have to make is, that abstracts are published, instead of complete papers. The abstracts are by some considered sufficient, and complete papers, never come to light. This is however a necessity, for the papers read, are too numerous, to be published in full, and no test can be applied by which certain papers can be selected for publication and others left out. A rule, however, might be adopted, that all papers published by the Association, should be exclusively so, and the authors should choose between the "proceedings" and other media of publication. This would certainly make the proceedings more valuable, and would not be objected to by the journals.

DISCOVERY AT GULVAL IN CORNWALL, ENGLAND—An interesting discovery was recently made in the restoration of the chancel of Gulval Church near Penzance, of an inscribed slab of granite carved with a key pattern and what looks like the Roman letters I. A. As Saint Ia, (from whom St. Ives derives its name), was killed near here in A. D. 450 by the heathen king Teudar, it has been suggested that the stone was inscribed to her memory. This has been disputed, but in any case the slab or menhir is a most interesting relic of early Christian antiquity.

A SERIES of articles on the early history of the Christian Church in Cornwall, by Rev. W. S. Lach-Szyrma, is now appearing in the "Church in the West," a weekly publication printed at Plymouth, England.



NOTES FROM THE FAR EAST.

BY PROF. JOHN AVERY.

THE ABORIGINES OF THE NICOBARS.—In the Journal Anthropological Institute for May, Mr. E. H. Mann gives an account of a primitive people observed by him on the Island of Great Nicobar.

The Nicobars are a group of about a dozen small islands, lying south of the Andamans, between 6° and 10° north latitude. The native inhabitants are

†Proceedings of the American Association for the Advancement of Science, thirty-third meeting held at Philadelphia, Penn., Sept. 1884. Part 1 and 2.

divided into two groups,—those of the coast and those of the interior,—each distinguished from the other by marked differences of physique and custom. The former are a mongrel Malay race, a mixture, doubtless, of an aboriginal people with castaways from the populations of the adjacent main land. The latter, who are now found only on the largest island of the group, and who jealously seclude themselves among the densely wooded hills far away from the coast, represent an earlier and more truly aboriginal race. So shy are they, that it is only within two or three years that explorers have been able to discover their rude homes and accurately observe their physical characteristics and mode of life.

Contrary to expectation, the Shom Pen, as they are called by their neighbors, or Shab Daw'a, as they call themselves, bear no resemblance to the Negritos of the Andaman islands, but have straight hair, and a complexion fairer even than Malays. They have the Mongolian obliquity of the eyes, and an average stature, in males, of 5 feet 2 8 inches; on the other hand, the Andamanese have frizzly hair, a black complexion, and a height seldom exceeding 5 feet.

The dress of the Shom Pen consists of a waist-cloth, for the men, arranged so as to allow an end to hang down behind, giving rise many years ago to the story of a race of men on this island having tails; and a short skirt for the women, made of cloth or the bark of a tree, together with a profusion of neck and ear ornaments.

Their huts are built on little clearings in the jungle, and consist of a dome-shaped thatch, supported by posts six or eight feet above the ground. They are entered by a ladder, which is carefully drawn up at night. Within are the fire-hearth and the cooking pots, which are merely strips of bark, folded sack-shape and supported on stakes. Vessels of pottery are sometimes procured from the coast. The domestic animals are herded in the enclosure below. Their agriculture is of the rudest sort, and requires frequent change of location. Their usual weapon is a spear with wooden head. They construct canoes with some skill, and barter them with the coast people for knives and other manufactured articles. Their language differs in a marked degree from that spoken along the coast; and, strange to say, it possesses an extended system of numerals,—in part borrowed from the coast,—for which the restricted life of its speakers seem to furnish no occasion.

SOME PRIMITIVE TRIBES OF SOUTH-WESTERN CHINA.—Like some regions on the northern and eastern frontier of India, there are parts of Southwestern China which have long been settled by rude tribes, whose ethnical relations, as well as manners and customs, are still imperfectly understood. The eastern extension of the Snowy Ranges of Tibet has been their last defence against the encroachments of more civilized peoples.

The earliest of the few travelers who have successfully crossed this country, and left us an account of what they saw, was the celebrated Venetian, Marco Polo. In later times we have a record of Hue and Gabet in 1846; of Capt. Blakiston in 1861; of T. T. Cooper in 1868, and in the same year the two expeditions under Lieut. Garnier and Major Sladen; of Baron Richthofen in 1872; of the unfortunate Margary in 1874; of Capt. Gill and the Grosvenor expedition in 1876; of E. C. Baber in 1877; and of A. R. Colquhoun in 1881. We have in addition much valuable information from the French missionaries, especially the Abbé Degodins, who have led a forlorn hope into these mountains.

Beginning at the north-western frontier of the Chinese province of Ssu-Chuan, we find the Si-Fan tribe, which extends from about 32° north latitude, northward through Tibetan territory to the Koko Nur basin. Their name, which is given them by the Chinese, means Western Foreigners; and implies a popular belief that they are not of Chinese stock. The word is applied rather loosely by many writers; and is made to include several tribes of different local names and languages, such as Sokpa, Amdoan, Thochu, Gyarung, and Manyak.

Next south of the Si-Fan in the mountains of the western border, about the 30th parallel, are the Man Tzu, whom the Chinese regard as the original settlers of the province of Ssu-Chuan and the builders of the cane dwellings along the Min river. Scarcely anything is known to Europeans about the country or the customs of these two tribes.

Adjoining the Man-Tzu, and extending down through south western Ssu-

Chuan into Yunnan are the Lolo. We are indebted to Mr. Baber for the fullest account of this tribe. They are divided into two clans, one independent and the other subject to the Chinese, which are known to the Chinese as "Black-bones," and "White-bones," respectively. The name Lolo is also of Chinese origin, while they call themselves by various local designations as Losu, Ngosu, Lesu, etc.

The Lolo have a remarkably fine physique, being exceptionally tall, straight, and muscular. Their features are on the whole Mongolian, but not of the most pronounced type. A striking peculiarity of their appearance is the mode of dressing the hair. This is gathered in a knot over the forehead, and so twisted with cotton cloth as to form a horn, which projects in front, often to a length of nine inches. To abandon the horn and adopt the pigtail is a sign of subjection to the Chinese. A Lolo wedding has some novel features. First, the bridegroom gives a feast to the bride and her friends for three successive days. On the wedding morning, while she and her attendants are lamenting, with well-feigned grief, her approaching separation from home, the male relations and friends of the bridegroom suddenly rush in, and she is seized and carried off on the back of one of their number. The friends of the bride spring to the rescue,—the men armed with flour or ashes, and the women with the branches of prickly shrubs, which they do not hesitate to use with vigor,—but she is quickly mounted on horseback, and the pursuit ends. The women of this tribe are treated with great consideration, sometimes being elevated even to the headship of the tribe. A stranger, traveling across their country, will seldom suffer harm if he can secure a woman as guide.

The Lolo are not Buddhists, but profess a sort of Animistic faith. In matters of property the youngest succeeds to the estate, the eldest being next in order. Their language is said to be harsh, abounding in gutturals and consonantal sounds unfamiliar to European ears. They have a system of writing, of which Mr. Baber procured a specimen; but it is said that only the medicine men know how to use it. Chinese or Tibetan characters are in more common use.

The Li-ssu, Le-su, or Leesaw, as the name is variously written, are a tribe found in north-western Yunnan. They are described by Dr. Anderson of the Sladen expedition as being "a small hill-people, with fair, round, flat faces, high cheek-bones, and some little obliquity of the eye." The name is evidently not used with precision, since it is applied by other observers to people situated elsewhere and of a more manly type. Their language is said to greatly resemble the Burmese.

In the same region is a kindred tribe, the Moso, of whom we know very little, save that their language is closely related to that of the Li-ssu. They have long been settled in this part of China, for their name occurs as early as 796 A. D., in the annals of the Tang dynasty, and in 1238 A. D., when they were conquered by Kublai Khan. Though nominally subject to the Chinese, they retain considerable independence in their mountain home.

We have already referred (Vol. VIII, No. 3), to the curious system of writing, of a hieroglyphic character, which seems once to have been in use among them.

There are other interesting tribes in Yunnan and northern Burma, which we shall describe at another time.

ETHNOLOGIC NOTES.

BY ALBERT S. GATSCHET, WASHINGTON.

NEW ETHNOGRAPHIC MAGAZINE.—The administration of the Royal Museums of Berlin, Germany, has in 1885 started a new magazine in quarto, destined to comprehend official and original communications of value, which from all parts of the world may come into the possession of the ethnologic department of that royal institution. W. Spemann is the publisher of the series, which up to the present embodies three numbers in 174 pages, with illustrations. A portion of the numbers present catalogues of the objects exhibited or received at the museum, which through the royal munificence and government are

butions has gathered ethnologic specimens in almost infinite variety and profusion. Prof. Dr. Ad. Bastian, the director of the department, has materially increased their bulk through his long voyages to the most distant part of the habitable world and illustrated them on a scientific basis in numerous treatises. The following will give an idea of the interesting contents of the "*Original-Mittheilungen*:" Collections obtained through the voyages of the late Dr. Nachtigal (1869-1874). Collection made by German navy officers on Easter Islands. Kubary, disposal of the dead on the Pelew Islands. The collections made by Robde in South America. Dr. Grube, Taoistic images. Dr. Grünwedel, Lamaistic iconography. Vocabulary of the Colorado language, Ecuador. Dr. O. Finsch, descriptive sketch of the ethnographic collections from the Pacific Ocean, from travels made by himself 1879-1882. Grabowski's collections from southern and eastern Borneo. Kubary, crime and criminal process on the Pelew Islands. Dr. O. Finsch, ethnological exhibition of the New Guinea Company. Dr. Fr. Boas, collection from Baslin's Land, North America. Pogge's, Wissmann's and de François's African collections. Collection of East African objects, sent by the travelers of the African Society. William Loest's collections made in 1884 in African countries. E. N. Ritzau, manufacture of pottery in Jütland, and Danish manufacture of wooden shoes, (clogs). Dr. v. Wloszki, marriage customs of Transylvanian Gypsies. Siberian Kurganography. S. Jorge Hartmann, Indian tribes of Venezuela. Prof. Dr. Bastian, epilogue on ethnographic subjects. From the above it appears that this official organ issued under A. Bastian's auspices is in a fair condition to enrich ethnologic science with the most valuable contributions. Lithographic tables illustrate many of the objects described in the texts.

EIN HERBSTAUSFLUG NACH SIEBENBURGEN. VON DR. WILH. LAUSER: 28 illustrations on 68 pages. Wien 18-6. 8vo.

ZUR VOLKSKUNDE DER SIEBENBURGER SACHSEN. Kleinere Schriften von JOSEPH HALTRICH. In neuer Bearbeitung herausgegeben von J. Wolff. Wien. C. Graeser; 8vo.; XVI and 535 pp.

From the press of Charles Graeser in Vienna, who has published a long array of books on Transsylvania and the adjoining countries, we have Dr. Wilhelm Lauser's illustrated "Autumnal Trip to Transsylvania," which gives a lively, frisky sketch of the multifarious nations comprising the population of that distant country, their strange customs, picturesque dress and interesting history. The book also takes in all the countries along the Lower Danube. Another more voluminous work, which deals exclusively with folklore of the German or Saxon element of Transsylvania is Joseph Haltrich's "Zur Volkskunde der Siebenbürger Sachsen," published by C. Graeser in remodeled shape. The popular imagination is generally fruitful in producing tales about animals, of which the fox and the wolf, separate or brought together into partnership, seem to be the most favored characters. Further on, we find shorter tales upon other animals also, especially domestic; upon the gypsies, (some of them quite in the Eulenspiegel style), taunts and banterings on the sundry classes in society, childrens' lore, tales and songs on orphan children, a highly interesting collection of superstitions and popular beliefs; proverbs, weather prognostications, oaths and riddles in various languages and dialects. to wind up with a rich collection of inscriptions found on house-walls, on churches and church plate, on fountains, inns, city halls, implements, regimental flags and grave-stones. Haltrich's book is equally fascinating to the conscientious, careful student of all the popular manifestations which we comprise under the name of folklore, as to the casual reader who seeks entertainment only, for the wide range and shrewdness of the author's observing powers are equally wonderful as the ready wit and wide-stretching invention of the naive rustics whom he describes. The immigration of the "Saxon" element from Germany into Transsylvania dates mainly from the end of the fourteenth century; it has been kept remarkably intact from Magyar and other foreign influences.

NACH ECUADOR. REISEBILDER VON JOSEPH KOLBERG. Dritte Auflage; Freiburg im Breisgau, Herder, publisher, 1885. 8vo. XVII and 550 pp. 122 woodcuts, etc.

The reason which prompted Joseph Kolberg to undertake his extensive

travels to Ecuador must have been the powerful seismic and volcanic phenomena which are not exhibited anywhere else by nature on a grander scale of combination than in that lofty South America plateau. The book is no doubt a useful and readable one for general and youthful readers, which accounts for its being published in a third edition. But the undue extent which is given to the explanation of the earthquake and volcanic disturbances make of it almost a schoolbook, for there is no end of geogenic theories and thoughts propounded in it. Scientific readers will also miss the great dearth of positive facts compared to the exuberance of sentimental thought and philanthropic twaddle. There is very little in the nicely illustrated volume that can be called new, and if any one seeks information about the Indians, he will find but extracts from former writers. Kolberg saw only the western portion of the country and the native element is nowadays almost entirely relegated to the eastern slope, which belongs to the drainage basin of the Amazon, and exceedingly uncomfortable to travel over. It must be acknowledged that in spite of many deficiencies of the book is free of sensationalism, well stylized and graphic as to scenery described and the incidents witnessed.

HERR STANLEY UND DAS KONGO-UNTERNEHMEN. Eine Entgegnung von Dr. PECHUEL-LOESCHE. Leipzig, 1885. 8vo; 74 pp.

HERRN STANLEY'S PARTISANE UND MEINE OFFIZIELLEN BERICHTE VOM KONGOLANDE. Von Dr. PECHUEL LOESCHE. Leipzig; 1886. 8vo; 32 pp.

Of a polemic tendency are two German publications of the German ethnologist Pechuel-Loesche on the subject of the possibility of settling the Congo country. By order of the Congo colonization committee, presided by the King of Belgium, Dr. P. has sojourned long enough in that distant region to study all its features. In self-defense against the aspersions and false representations made by Stanley in his book and elsewhere, he declares to have been shamefully treated on his mission to Africa, and that the settling in those unhealthy lands will never have the shadow of a success, though speaking only of the country around the Stanley Pool. The colonists die off like sheep, there is no commerce worth speaking of, and hence the railroad projected from the coast north of the mouth of the Congo will never pay. The report of the American commissioner about Congo, Mr. Tisdell, who boldly discourages emigrants to settle there, he endorses in every regard.

BERNER CHRONIK VON VALERIUS ANSHELM. Bern. K. J. Wyss, publisher. Vol. I, 1884. Vol. II, 1886.

Valerius Anselm is the name of a Swiss historiographer who lived contemporaneously with Luther. By order of the Bernese government he composed a chronicle of great historic value, which embodies all the events of Bernese and Swiss history from the wars against Duke Charles the Bold of Burgundy, which began in 1474, down to the introduction of ecclesiastical reform in Switzerland and further on to the year 1536. Anselm's style is lively, precise and to the point; he is animated by civic patriotism and an enthusiast for the glory of his "fatherland." He takes a much deeper view of the world's history than the majority of chroniclers of the his epoch; sometimes he traces the causes of political events to Turkey, Arabia and other far distant countries. The historic society of Berne has just undertaken the republication of this remarkable work and intends to complete it in four instalments, two of them having already appeared. The publication is in charge of Librarian E. Bloesch, who has with skilful hands explained in foot-notes all the obscure passages and historic allusions made by Anselm, and in this manner has made the book useful to every instructed person, whereas without his comments many sections would lack that clearness which we expect to find in the works of every historian.

BOOK REVIEWS.

Transactions of the Wisconsin Academy of Sciences, Arts, and Letters. Vol. VI, 1881-83. Madison, 1886.

The appearance of the Transactions after a period of four years is a welcome thing. The delay, however, seems unnecessary. A society which has a State treasury back of it to pay for the publication of its papers, ought to be efficient enough to get out a report oftener than once in four years.

There are three articles in the volume on Archaeology; two by Dr. P. R. Hoy,—one, "Who Built 'he Mounds?" the other, "Who Made the Copper Tools?" read December 27, 1882; and one by Rev. S. D. Peet on "Ancient Villages among the Emblematic Mounds," read December 7, 1883. Two articles on Ethnology, as follows: "The Primitive Democracy of the Germans," by W. F. Allen, and the other "On the Relation of Greek Art and Religion," by Prof. J. Emerson.

Proceedings of the American Philosophical Society, July, 1886.

This Report contains, among other articles, the following on Indian Languages; Vocabulary of the Selish Language, by W. J. Hoffman; Vocabulary of the Waitsbunini Dialect of the Kaivia Language, by ditto. Also on the Beathunk Indians, by Albert S. Gatschet.

These Indians appear to have been inhabitants of Newfoundland. Analogies between the language and other Algonquin dialects is drawn by the writer. It is maintained that the language is not either Greenlander, Eskimo, Iroquois, Tinne, Inuit and contains very little resemblance to the Micmak Abeniki, or any other dialect of the Algonquin. Mr. Gatschet maintains that it belonged to a separate linguistic family.

An Account of Various Silver and Copper Medals, Presented to the North American Indians by the Sovereigns of England, France and Spain, from 1600 to 1800. Read before the Wyoming Historical and Geological Society, Sept. 12, 1885. By Rev. HORACE EDWIN HAYDEN. Reprinted from Part 2, Vol. II, of the Proceedings of the Society. Published at Wilkesbarre, Pa.; 1886. Pamphlet, 26 pp.

We owe a debt of gratitude to Mr. Hayden for this monograph, as it brings before us some important facts in reference to the Indians. One rather startling statement is made. "The Indian thought his allegiance was limited simply to the time during which he permitted the silver disc to be on his breast, and that when he parted with it, or lost it, his allegiance was ended.

It is in a measure true, for in 1812, when the English demanded of the Ojibways the surrender of a George Washington medal, a chief said: "Englishmen, I shall not give up this medal of my own will. If you wish to take it from me, you are stronger than I am, but I tell you it is a mere bauble. It is only an emblem of the heart which beats in my bosom, to cut out which, you must first kill me."

During the civil war, the U. S. Indian agents were ordered to search among the tribes for foreign medals, demand their surrender, and give American medals in their stead.

Historical Lecture on the Life of Our Lord Jesus Christ, with notes, critical, historical and explanatory; By C. J. ELLICOTT, D. D. Published by Warren F. Draper, Andover, Mass.; 1861; 382 pages.

The Scripture Doctrine of the Person of Christ, by J. A. REUBELT, D. D. Published by Warren F. Draper, Andover, Mass.; 1876. 456 pages.

Messianic Prophecy and The Life of Christ, by WILLIAM L. KENNEDY. Published by Warren F. Draper, Andover, Mass.; 1860. 484 pages.

The Kingdom of Christ on Earth. Twelve Lectures delivered before the Students of the Theological Seminary, Andover, by SAMUEL HARRIS, Dwight Professor of Systematic Theology in Yale College. Published by request of the students. Warren F. Draper, Andover, Mass.; 1874. 255 pages.

The doctrine of Christ as a divine being finds advocates enough. The

profoundest thinkers and the best theological scholars in the world have been engaged upon it, and the large majority seem to be perfectly satisfied. The variety of thought and the suggestiveness as to themes which arises from the study is perfectly marvelous. There is no barrenness in that field. If we compare it with the fields occupied by other systems it is like a garden of roses on a hillside; a green oasis which refreshes the weary traveler in a desert of sand. There is no end to the products which arise upon this field. It would be useless for us to undertake to review these books separately, but they furnish fresh and reliable material to the person who wants to enter into the study of comparative religions, as they give the different phases of the doctrine of Christ. The prophetic, the scriptural or expository, the historical and the philosophical. Each author takes a different standpoint and looks at the statue and draws inspiration from it and then pronounces the person divine. There is not the effect of Greek fine art in this view, but there is something more inspiring, as the real rather than the ideal is brought before the mind's eye. The lovers of art think they recognize divinity in the statues of Appollo, of Athene, of Zeus, but the substance after all is human and the divinity is a shadow. In Christ humanity seems to be the shadow and divinity the substance. If any one wants to be convinced of this point let him turn from the books that treat about other religions to books like these which bring forth deep things of the Christian religion, and he will see the difference. "Drink deep or taste not of the Pierian Spring." If the authors such as Inman, Richard Payne Knight, Jennings, Forlong, and others of the Rosicrucians school who have treated of the symbols of ancient faiths and have brought out treatises on the phallic symbols, serpent worship, would turn away from the cesspool into which they are burrowing and honestly investigate the doctrine of Christ, they would certainly find something that is purer and better than that which paganism offers. The phallic symbol may be recognized by them among the modern ornamentations, and possibly there may be a survival of pagan customs in the ritualism of that church. But certainly protestantism contains very little which suggests such vulgar associations. One who enters into the true spirit of Christianity is disturbed by no thought as to such being the source of the Christian religion.

It is a forced conclusion and one that is unbecomingly intelligent and pure minded Archæologists. The Theosophists who have undertaken to establish a school in recent times are not successful. They have given no satisfactory system and have fallen out among themselves. Notwithstanding the differences which exist between Christian denominations, all agree on the divinity of Christ. Book after book is written upon the subject and yet it is not exhausted.

Mr. W. F. Draper has made a specialty of publishing upon this subject, and the works issued from his press are all valuable for the student who desires to go over the subject again in the light of latest contributions, these works will be of great service. They are standard works although of recent origin.

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VOL. VIII.

NOVEMBER, 1886.

No. 6.

THE APACHE-YUMAS AND APACHE-MOJAVES.

SECOND PAPER.

Basket-making consumes a great deal of the time of the women. Besides the baskets for their own use, they manufacture some for trade, as there is always a demand for them among other tribes, and of late they find a ready sale for them among the whites. Two patterns, of various sizes, are made, cone-shaped ones, and those having the form of a bowl. The former are easily and quickly woven, and are usually ornamented with one or two red bands. The largest hold about two bushels, and the smallest, which are for little girls, who begin at an early age to carry burdens, about a quart. They are borne on the back, suspended like the water-jugs, from the head by means of a band, the apex resting on the belt of the kilt. They are used in harvesting seeds and to carry burdens of every description, as fire-wood, their household goods in moving camp, their children, the aged, and the sick and wounded. On the removal of the tribes in 1875 from the Rio Verde to the San Carlos Agency, a distance of about one hundred and fifty miles, by a trail which led over rough mountains and across swollen streams, nearly all their effects, many of their children, the old, and the sick were carried in these baskets. They traveled on an average eight miles and a half a day. The men shared the labor with the women, and one old man demonstrated that conjugal affection is fully as strong among the Indians as in civilized life, by carrying his decrepit wife the whole distance in a basket on his back. The round, shallow, bowl-shaped baskets are made water tight, and require patient and skilful labor to weave them. Various designs in black, as straight, broken, waved and zigzag lines, and steps or terraces woven into them with strips from the cat's claw—the inner part of the pod of a *martynia*, which, when dry, is black. They

also are made of various sizes, from small ones used as drinking cups, to those of sixteen or seventeen inches in diameter, which are used to parch seed in, mix their bread, etc.

As to their food, they consume with a relish many things that a more fastidious palate would reject. They devour rats, coyotes, lizards and caterpillars, and prefer mule and horse meat to beef, but will not eat wild turkeys and some other fowl, nor fish.* The women procure the vegetable, and the men the

animal portion of the diet. In the fall the women harvest the seeds of a variety of plants, and cache a portion for winter's use. The seeds of grasses and herbaceous plants are gathered by shaking them into the conical baskets. A few of the A-Yumas formerly raised small patches of maize *ti-yatch*, and laid by a little for winter. They parch the seeds by tossing them up with coals in a shallow basket for a time, then sprinkle them with water and grind them to meal, which when rolled into balls constitutes their bread *mi-el-la*. This when made of the seeds of the saguara or giant cactus (*Cereus giganteus*, engelw.) Indian *ah-a'h*, is esteemed a delicacy. The ripe pods of the mezquit (*Algarobia*



Apache Runners.

glandulosa, T. and G.) Indian *n'a-la*, are also ground and made into bread. To grind the seeds they make use of two stones, the metate *ha-pi*, and the rubbing stone *ha-pe-cha*, both of black lava usually. The metate is flat, and about eighteen inches long and eight inches wide. It rests on the ground, inclined at a slight angle, and the woman sits with it between her outstretched legs. The rubbing stone is round, and about six inches long and three inches thick. The woman grasps it in both hands and gives it a rolling motion forward and back. The mescal, magney or American aloe (*Agave Americana*), Ind. *vi-el*, serves them as food the year round. It is found in perfection on the south sides of high hills and on high mesas that incline towards the south.

*A few A-Yumas who came from near the Colorado river ate fish caught in that river.

in loose and stony soil. When a supply is required, the women go in charge of some of the men, or the whole party moves to the mescal fields, and sufficient is cut and baked to last several weeks. They select plants that are at least eighteen inches high and cut them close to the ground, then trim off the projecting ends of the leaves, so that each plant forms a large ball composed of the thick bases of the leaves, and the crown on which they are crowded. They then carry them in their baskets to a suitable spot in a ravine or canon where they dig a pit, or if an old one be in the neighborhood, as is frequently the case, they resort to it. The earth taken out is banked up to deepen the pit, which varies in size from three to ten feet in diameter, and from two to four feet deep, according to the number in the party. A large fire is built in it, on which are thrown basketfuls of stones. When these are hot the mescal is piled on them in the form of a pyramid, and covered with grass and earth. It is allowed to remain undisturbed about forty-eight hours, the women watching the pit in order to repair occasional breaks in the covering. When the mescal is baked, the pit is opened, and each woman takes out her own, which she recognizes by her private mark. The plants in baking shrink and turn brown. The fibres, which are coarse in the leaves and fine in the crown, become tougher, but the fleshy part is converted into a sweet juicy pulp. Those which are not to be used soon are torn to pieces and spread on sticks in large cakes, which, when dry, are rolled up for convenience in carrying. When kept for some time they become hard and tough, and require soaking in water before they can be eaten. Mesca-water, made by dissolving the pulp in water, is a favorite beverage, and constitutes the exclusive diet of the sick. It frequently acts as a purge, and when dysentery or diarrhoea exists often aggravates the disease. If the plant is not well cooked, or if too young, it produces the same effect. The stalk, which the plant sends up at maturity to the height of fifteen feet or more in a few weeks, is when young, often broken off and eaten raw, or after it has been roasted in an open fire. The fruit of the opuntia, called prickly pear or tuna, Ind. *la-ba*, is for several weeks after it ripens in September their principal diet, and sometimes in the absence of other food, is eaten in such large quantities as to cause bowel complaints. They are very fond of the fruit of the Spanish bayonet (*Yucca baccata*, Torr.) Mexican *Palmia ancha* or Amole, Ind. *ve-nat*, commonly called "dates" by the whites, which ripens in October. It resembles the banana in shape and taste. Camas, the bulb of the wild hyacinth (*Camassia esculenta*, Lindl.) Ind. *a-nya-ka*; the seeds of the gourd or mock orange (*Cucurbita perennis*, Gray.) Mex. Chili coyote and Calabazilla, Ind. *a-ha-mah*; acorns, Ind. *i-hi-mi-a*; walnuts, Ind. *jud-ka*; pine nuts, Mex. pinons, Ind. *u-koh*, wild garlic, wild potatoes, the young stalk of the thistle, rose pips, currants and juniper berries

are also eaten in their season. In the spring a white sugary substance called honey-dew is frequently found on the leaves and young stems of a species of willow quite common along Date creek. They break off the branches and stir them in water to dissolve the honey dew, and make a refreshing drink. No intoxicating beverage is made by them. The only word they have in their language to express drunkenness is *wassibatomi*, crazy. The customary drink in winter is hot water. They raise small patches of a species of tobacco, which is smoked mostly by the medicine-men, who always inhale the smoke. Before they went to the Verde Agency very few of the men were habitual smokers, and none of them chewed tobacco.

Their meat was principally rats, *ma-le-ke*; hare, *ku-le*; and cotton-tail rabbits, *he-lo*, which are numerous and can easily be captured or killed. All the men and boys frequently engage in the sport of a rat hunt. They arm themselves with rat-sticks, which have a crook at one end, and go about among the rocks and bushes poking into the holes and hauling out the rats. Occasionally a rat gets out of his hole and essays to escape, when they all run yelling after the fugitive, flinging their sticks or striking at him, and often tripping up and tumbling over one another. As fast as they kill them, they tuck them under their belts, and often at the close of the hunt each one has a belt full dangling about his waist. In hunting rabbits a line is formed and the bushes are beaten to drive them out, and they are shot with bows and arrows, or canes or boomerangs are flung at them to break their legs. Before cooking the rabbits they skin and draw them, but roast the rats without doing either, simply making an incision in the abdomen. When they boil them they take off the skin but leave the entrails. Doves, ducks, geese and swan are rarely eaten, but their eggs are relished when boiled.

Before they had firearms large game was not easily killed, but when the hunters were successful there was a feast. Some strategy has to be exercised to get within arrow-shot of deer, *kwa-ka*; antelope, *mu-ul*, and mountain sheep, *mu-u*. In hunting deer they use as a decoy a head covering or mask, *mu-hu*, made of the skin and antlers from a buck's head. The skin is dried in proper shape and the back of the antlers cut away to make them lighter. A hoop which fits the hunter's head keeps the neck in shape. The mask is put upon the head like a hat, and held by means of strings tied under the chin. A deer skin is thrown around the shoulders, and the man is enabled in this disguise to approach within bow-shot of a deer by bending forward and imitating the motions of one when grazing, or he shows himself above the brow of a hill, or from behind a rock. Antelope heads are prepared and used in the same manner to hunt that animal. Sometimes the men form a line and drive the deer into a narrow valley where they surround and shoot them as they try to

No part of the deer or antelope is discarded. The foetus is a dainty morsel and the intestines choice parts, which the hunters usually feast upon at once. The head is baked in a pit upon heated stones. It is put in at night and taken out the next morning ready to be eaten. The rest of the meat is usually boiled in the earthen pots, but is often broiled on the coals. Bones are broken, and all the marrow is carefully extracted.



Mask For Hunters.

They are very much attached to all of their children, but treat the boys with marked respect. The latter are often gravely consulted and their advice accepted as if they were men. The women are as a rule kindly treated. The majority of the men have one wife, but some of the older ones have two wives, having taken the

second before the wars with the whites, which were more fatal to the women than to the men. Separation rarely occurs after a woman has borne children. On the Verde Reservation the men outnumbered the women, and the scarcity of the latter led to prostitution, the young men appropriating the widows. They also stole women from the Tontós and Apaches for the purpose of debauching them, wrestling with one another for the precedence.

The women assume the duties of wives at about the age of fifteen. The marriage form is a very simple one, the man, after coming to an understanding with the girl, makes her parents a present, usually a buckskin or two, to obtain their consent, then goes and lives with her, becoming a member of her family. Very rarely a girl is given away without her consent, when if she is not docile, she is beaten and forced to the bidding of her husband.

For two years in succession I observed that in August and September the women solicited the attentions of the men, and an unusual number of couples were seen with their heads hidden in a blanket caressing each other. The majority of the children were born in the spring.

The woman assumes a squatting posture during labor,* and is assisted by an old woman, who squats behind her and makes steady gentle compression with hands clasped over the abdomen, following the uterus down, or, if labor be difficult, exerting considerable force to expel the fœtus, or raising and shaking the woman up and down. The cord is cut about one inch from the child's body and tied with a string. After her delivery, the woman draws a roll of buckskin snugly around her waist, attires herself in a new buckskin skirt, and resumes her ordinary duties. Her diet is restricted to soup and mescal-water for three or four days, or until the first milk, which is thought not to be good for the child, has been rubbed out of the breast. They are occasionally afflicted with inflamed breasts, as is indicated by the custom of holding the breasts over a hot stone and pressing some of the milk out to fall upon it. They say that a woman once neglected to take this precaution, and her breasts become very sore, and had at length to be cut open with a sharp stone by a medicine-man to let out the pus. The A-Zuma mothers for several months bind on the infant's breast-bone a buckskin bag, from two and a half to three inches square, filled with earth, and are frequently seen pressing in the bone with their hands. They all pierce their children's ears, using for the purpose a sharp fire-hardened piece of wood. The reason for these customs they are unable to give.

Children are usually quite large before they are named, and often fully grown, and until they are known as *si-ti* (one), or *si*

*This is also the posture taken by all Indians while micturating.

the girl or boy of a certain man. Adults do not always know the names by which others designate them, or else are ashamed to tell, as frequently a man when asked his name will turn to a bystander and ask him to tell it. The names are usually descriptive of physical or mental peculiarities, or notable acts of the persons to whom they are applied. Occasionally a man gives himself a name. One name may cling to an individual through life, but usually he acquires a new one for every striking deed he performs. After a new one is received the old one is often forgotten. A collection of the names of a man sometimes constitutes a sketch of his life.

The head of each family formerly governed his immediate relatives in patriarchal style, being guided by the medicine-men in important matters. After their subjection, the tribes were divided into bands, and a chief was appointed over each, but it was only by force that the people were brought to recognize the authority given to these men. Permanent war-chiefs were not known, but whenever a number of families united in an expedition they followed some man who had proved himself brave, or had met with success on a former occasion. Medicine-men accompanied them to advise them and incite them to deeds of bravery, but did not themselves take part in the fights. The parties usually went out to revenge the death of a relative, male or female, and thus fulfill what they considered a sacred duty. They depended upon surprise and superior numbers for success. Their attacks were made early in the morning while the enemy were sleeping, or they lay in ambush and dashed suddenly upon them in order that they might get close enough to use their favorite weapon, the club. They resorted to the bow and arrow when unable to arrive at close quarters. At Date Creek and the Verde Agency many of them carried flint-lock and other old muskets which they procured in trade from the Navajos and Moquis. They kill all men and grown boys, taking only women and children prisoners and sometimes in retaliation killing these also. They sometimes mutilate the dead, but never take scalps. See cut.

The war-club is the shape of the beetle commonly used by wood-choppers. It is made of a piece of mezquit wood, and is about fourteen inches long, the head usually being painted black and the handle red. Their bow is made of willow or mezquit and the string of twisted sinew. The length is about four feet but varies according to the height of the individual using it. They have two kinds of arrows, those made of cane *a-ta*, pointed with a piece of hard wood, to be used in hunting small game, and those made of the stem of the arrow bush *ha-ta-wil*, pointed with stone or iron heads, to be used in hunting large game, and in war. The arrow-head is set in a shallow notch at the end of the shaft and held in place by means of a thin shred of sinew wound in the form of a figure 8. As long as the sinew remains

dry, the head is secure, but if wet, it soon becomes soft, and for this reason efforts made to withdraw an arrow from a wound almost invariably result in the detachment of the shaft, and the loss of the head in the wound. The plume is about six inches long and is put on spirally, the three pieces of which it is formed making one-fourth of a turn around the shank. They poisoned their war-arrows in the following manner: The skinned and dried head of a rattlesnake was powdered on a stone and mixed with clotted blood, salt, and a liquid squeezed from large red ants, or the ants themselves dried and powdered. After this mixture has been allowed to stand for a time, it was carefully smeared on the arrow-heads with a piece of buck-skin, and in order to distinguish them from arrows not treated in this manner, they were dipped into a stinking liquid obtained by crushing certain leaves.

Nearly every family has its shaman or medicine-man who belongs to an order, the members of which are regarded with veneration and awe, on account of their supposed intimacy with supernatural beings. They have unbounded influence over the people through the superstitions which they impart to them. They are selected from the males above the age of fifteen by the spirits, they say, who frequently manifest their choice in strange ways. A young man was once pointed out to me as one who was probably in communication with the spirits, and would become a medicine-man, as he sometimes bled from the mouth, and was in the habit of wandering off by himself. It was said that once after an absence of some days in midwinter he returned with an unfamiliar flower, which he must have brought from a distant and warmer country. I afterward saw him in a fainting fit, caused by hemorrhage from the lungs, for which they would allow nothing to be done, as he was thought to be in communion with the spirits. The medicine-men profess to be on familiar terms with the spirits, each one having his twin or familiar, whose assistance he procures to enable him to counteract the influence of evil and less powerful spirits. When a spirit has selected a man, it appears to him in a dream, and attaches itself to him as his counsellor and guide. It conducts him on a long journey east through the spirit land, in order to initiate him into its mysteries. This journey consumed several nights, the spirit returning night after night, providing the man be found worthy, to continue it until completed. His faith, secrecy, and endurance are tested on these occasions. Soon after they start, a great mountain intercepts them, and those meet him who endeavor to turn him back by telling him that the journey is a perilous one, and that the mountain is too high for him to cross, and he cannot go through it, as it is solid rock, but the spirit encourages him and informs him it is only earth and he can go through it. If he has faith in what the

spirit tells him, and makes the attempt, he easily penetrates the mountain. Beyond it they have to cross eight parallel rivers. They then enter a delightful country, the abode of spirits, who occupy houses which face the rising sun. Farther on he visits

the beautiful and silent woman, who lives alone in a round white house, the roof of which is formed of the rainbow, and the door faces the east and sparkles under the rays of the rising sun. Here he sees many beautiful rattles and is taught the use of them. He at length reaches sunrise and beholds the all-wise and truthful spirit *Se-ma-che* who dwells there.* From him he learns how to cure pain, heal wounds, make charms, etc. The man is bound to secrecy until he reaches sunrise, when his journey ends, and he is at liberty to proclaim himself a medicine man or *pa-semache*. After this his familiar visits him only when he invokes its aid in chants, accompanied by the rattling of a gourd containing some pebbles. The smoking of certain weeds constitutes an important part of the invocation.

All the medicine-men meet occasionally and with considerable ceremony "make medicine." They went through this performance early in the summer of 1874 at the Rio Verde Agency, for the purpose of averting the diseases with which the people had been afflicted the summer previous. In the middle of one of the villages they erected a ramada, or brush hut, some ten feet in diameter, and under it, on the sand, illustrated the spirit land in a picture about seven feet across, made in colors by sprinkling powdered leaves, grass, red clay, charcoal, and ashes on the smooth sand. In the centre was a round red spot, about ten inches in diameter, and around it several successive rings, alternately green and red, each one being an inch and a half wide.

From the outer one radiated four somewhat triangular shaped figures, each corresponding to one of the cardinal points, giving the whole the appearance of a Maltese cross. Around this cross and between its arms were the figures of men, their feet toward

I-I-TE-KA-TE

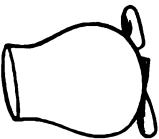


WAR-CLUB

A-MAT-HA-THI-WA



A-MAT



Domestic Utensils.

*They have an ornament, made by fastening together base to base two talons from the hawk or eagle, which is symbolical of Semache, the sun-rise god, or the sun. See cut on page 337.

the center, some made of charcoal with ashes for eyes and hair, others of red clay and ashes, etc. These figures were eight or nine inches long, and nearly all of them lacked some portion of the body, as an arm, or leg, or head. The medicine-men seated themselves on the ground in a circle around the picture and the Indians of the different bands crowded about them, the old men squatting close by and the young ones standing back of them. After they had invoked the aid of the spirits, in a number of chants, one of their number—apparently the oldest—a toothless, gray-haired man, solemnly arose, and carefully stepping between the figures of the men, dropped on all except three of them, a pinch of yellow powder which he took from a small buckskin bag handed to him by one of the others. He put the powder on the head, chest, or other part of the body, one of the other men sometimes telling him where to put it. After going all around, he put up the bag and then went around again and took from each figure a large pinch of powder, including some of the yellow, until he had collected a heaping handful. He then stepped back and each of the other medicine men collected a handful in the same manner. Some of the laymen, in their eagerness to get some of the consecrated powder, pressed forward, but they were ordered back. When all the medicine-men had supplied themselves, the *ramada* was torn down and a rush was made by men and boys, who grabbed handfuls of the powder and rubbed it on their bodies or carried it away. The women and children, who were waiting for an invitation, were then called. They crowded to the spot, and grabbing handfuls of the powder, tossed it up in the air and stood under it as it fell, or they rubbed their bodies with it, mothers throwing it over their children and rubbing it on their heads. This ended the performance. The medicine-men afterward made and sold small crosses containing some of the powder. Each cross was formed of two pieces of wild cane about two inches long, wrapped with red and blue yarn, and tied together.

They attributed diseases and injuries to the influence of evil spirits, who work their mischief on the men through the women. They rarely prescribe medicines, but deal largely in charms. When these do not appear to be efficacious, the medicine-man sings over the sick or wounded, keeping time with his rattle, to summon his familiar. He stops to rest now and then, smoking in the intervals. He frequently sings all night, and sometimes for several nights in succession. Occasionally an assistant makes responses. Should the patient be a man the result of the incantations is that some woman, usually that of an unfaithful wife or a prostitute, is charged with having bewitched him, and the one so charged is tied to a tree by the relatives of the patient, to await the result of the case. If he should die she is stoned to death. To learn whether or not a patient will recover.

medicine-man says he swallows a live coal and then ejects it into the air; if still alive when it falls to the ground, the patient will recover, if black he will die. Or he swallows a pipe which has been filled with tobacco and lighted. It works out of his body, usually from an arm or a leg, and if white, the prognosis is good, but if colored, it is bad.

A sick man may be recognized by the buckskin string which he ties around an arm or a leg, but oftenest around the latter just below the knee, to prevent his strength from running out.

They were free from venereal affections until a band of Indians under Chemehuevi Sal were sent to the Agency from the Colorado river in 1874. The women had been debauched by the whites on the river, and were nearly all infected. In a few months after their arrival venereal diseases had become prevalent, and since then have proved a scourge to these tribes.

They suck arrow and gun-shot wounds as soon as possible after their infliction, and believe that the latter like the former are poisoned. They afterward blow into them as an antidote a red powder, which is said to be obtained from the root of a plant that grows in the red-rock country near the Verde river. When much swelling and pain occur, they make scarifications around the wound and suck them. I have seen extensive emphysema of the neck and upper part of the chest produced by suction in a case of wound of the summit of the chest.* The friends of a wounded man invariably smear some of his blood upon themselves. Their sick and wounded are transported upon their backs in the cone-shaped baskets. They make use of dry earth as a dressing for running sores, which they completely cover with it in order to absorb all discharges, and the women introduce large plugs of clay into the vagina for discharges from it. Scarification is practiced for the relief of pain, and there is scarcely an Indian but has scars on his body remaining from the operation. In the case of a woman who was suffering with severe pain in her right thigh, the operation was performed as follows: After she had tied a deer skin snugly around the upper part of her thigh, and seated herself upon the ground with the leg flexed under the thigh, the medicine man chose a sharp flake of quartz from a number of pieces he had with him, and, beginning at the upper part of the thigh made eight or ten shallow cuts about one-third of an inch to an inch and a half in length and about one-third of an inch apart. He then, with the outer edge of his hand and a smooth stick, brushed off the blood as it oozed in drops from the cuts, and blew mouthfuls of water in a spray upon them until they ceased to bleed, when he made more cuts lower down and treated them in a similar manner. He

*The Tonto Apaches, when wounded, wear a buckskin shirt bearing various painted figures, or they fasten around the waist the figure of a lizard cut out of buckskin.

continued to scarify until he had made over one hundred cuts, and drawn about six fluid ounces of blood.

For slight cuts and bruises they lay a piece of the dried skin of the Gila monster upon a coal of fire and hold the injured part in the smoke arising from it. A fractured limb is placed in a splint made of numerous slender sticks, which are tied together in a row and then bound around the limb. They suck rattlesnake bites, and apply a powder of some kind as an antidote, but do not claim it is a specific, admitting that the bite sometimes proves fatal.

They make use of numerous charms, some of which are to render them invulnerable in war, and others to insure success in hunting, gambling, and affairs of love. The fangs of the rattlesnake ward off arrows and bullets. Before engaging in a game of chance the hands are scratched with them, and they are sometimes introduced into the pole with which their favorite game of *turebi* is played. Great secrecy is observed in using them, to prevent the use of a countercharm by the other side. A bezoar from the stomach of a deer gives the possessor of it good luck in hunting, and happy is the hunter who finds one. Crosses and the rattles of the rattlesnake are tied to a lock of the hair to prevent and cure pain in the head. Little wooden figures representing men, are worn by many tied to the belt. Quartz crystals give good luck. All green stones possess peculiar virtues, and are treasured by the medicine-men. Many of the people make beads of various roots to string around the neck and eat when sick.

The Apache-Mojaves sometimes resort to the Tonto medicine men to receive the rattlesnake treatment for the relief of pain. At the Agency one day, the rattling of a snake attracted my attention, and on approaching a group of Indians from which the sound seemed to proceed, I found a medicine-man squatting down holding a large rattlesnake in his right hand, the thumb and index of which encircled it close to its head, while he gently stroked its back with his left. Presently an old man advanced to him, and, saying he had pain in his head, squatted on the ground. The medicine-man arose, and, placing himself behind his patient, coiled the snake around his head, and, while holding it there, uttered a guttural chant, occasionally causing the snake to vibrate its rattles. He then quickly uncoiled the snake and swung it head foremost away from the man's head, at the same time making the sound *wisht*. The man then pointed to his right arm, and the medicine-man laid the snake along the limb, its head resting on the head. He chanted again, caused it to rattle and swung it away as before. The old man arose and with satisfied air walked away. Other patients succeeded him to — the snake laid on various parts of the body. After the medicine-man rested the snake on the ground :

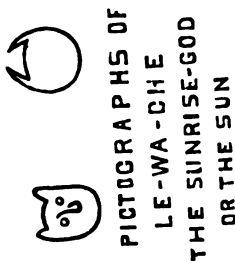
retaining his hold of it with his right hand, put a pinch of yellow pollen into its mouth with his left, and rubbed some along its belly. He then held his hand out to a man, who took a pinch of the powder and rubbed it on the crown of a boy's head. Yellow

pollen treated in this manner is a common remedy for headache, and may frequently be seen on the crown of the head of men and boys.

The medicine-men are consulted for the purpose of recovering lost or stolen property. A Yavape Indian related to me how one of them found for him a blanket that had been stolen from his uwah. He first presented the man with a buckskin, then described the blanket, told him where he had left it, and on what night it was taken. The man went to sleep in order to question his familiar. He had instructed three Indians that when he clapped his hands they must hold him to the ground, with his arms extended at right angles with his body, so that when the spirit came it could not carry him off. They did as he directed, and when he awoke he said that the blanket had been pulled out of the back of the uwah by a man who buried it in a hole which he had dug in his own uwah, and left it there until the following night, when he dug it up and went in a round aboutway to a certain tree quite a distance off, in which he hid it among the branches. The Indian went to the tree indicated and in it found his blanket.

The dead are disposed of by cremation. The body is laid upon some sticks of wood, and enough piled upon it to consume it. Ashes and a few small pieces of calcined bone are all that remain on the site of the fire. If the death occurs in a hut, the fire is built inside, and the hut, together with everything in it, is burned along with the body. When a death is anticipated the

precaution is sometimes taken to remove valuable articles, not usually those of Indian manufacture however, but only such as have been procured from the whites. If there is no relatives to carry the wood for a pyre, the body is left where death occurred. Bodies left in this mannner dry up and become mummified. They buried the body of a man in the ground at the Verde



Apache Religious Emblems.

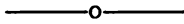
Agency when ordered by their agent to do so, but they did it under protest. They dislike very much to touch, or even go near a corpse, and especially if the death has been caused by disease. As soon as death is announced, all the huts in the immediate neighborhood are deserted, and often burned. For several weeks afterward the female relatives of the deceased wail at intervals, sitting on the ground with their heads bowed between their knees rocking themselves back and forth, and whenever they meet any one they break forth into lamentations. Men cut their hair short as a sign of mourning. It is believed that the spirits of the dead wander about at night, and the dread of encountering them is so great that no one willingly walks abroad after dark, but if compelled to go carries a torch or sings in a loud voice. They dislike to speak of the dead, and will not mention his name, but refer to him indirectly and usually in a whisper.

They do not endure physical pain any better, if as well, as the whites. Great or continuous pain renders them stupid, and oftentimes delirious, and the stolidity with which Indians in general are credited is not well maintained by them under small surgical operations, the one of tooth extracting almost always eliciting a groan or a yell. The expression of their faces cannot always be seen on account of paint and their long hair, but when not concealed by these, the changes induced by the emotions may readily be detected; anger is almost always betrayed by the expression of the eyes; fear by the dirty grayish color the skin assumes; surprise by suddenly drawing in a breath as if gasping, and sometimes also by covering the mouth with one hand. They rarely point with the finger, but raise the chin and pout the lips toward the object. In beckoning to a person to approach they raise a hand with the palm forward, high up when the person is far off, and then swing it forward and downward.

The medicine-men say that the earth is flat, round and stationary. Below it there is another region similar to it in all respects. The sun has a diurnal motion. In the morning it rises from just below the earth, crosses over to the west, sinks a little below the earth, and then makes its way north and around to the east again. The moon stands still, but all of the stars move. Many of the latter have names, and some of them have myths connected with them. The three stars of the second magnitude in Orion's belt (* * *) are called mn-'u or mountain sheep, formerly they were further apart, and the middle one (E) was the hindermost, but having been shot at by the hunter, who with his dog is chasing them, he jumped over the one (T) that was then in the middle. The hunter, the dog, and the arrow are constellations in the neighborhood of Orion. Their year begins at the seed-gathering time in September, and they count the moons ~~u-ni~~ the next seed-time.

Yavapes tell of a wonderful spring in the red-rock country on the Verde river north of Fort Verde, near which they once lived. It wells up into a basin worn in the solid rock, beneath a chimney like opening which extends through the whole thickness of a high overhanging rock. A spirit guards it, and withdraws the water whenever he hears a human being approach. Any one who wishes to obtain water from it must steal up and dip quickly so as to take the water-spirit by surprise, otherwise the water will sink out of sight. If during a drouth any one wishes to produce rain and can succeed in getting some of the water, and throwing it to a certain point high up on the rock the clouds will surely gather soon and rain begin to fall.

WM. M. CORBUSIER, M. D., U. S. A.



THE TIBETO-BURMAN GROUP OF LANGUAGES.

SECOND PAPER.

Proceeding eastward from the kingdom of Nepal, which has detained us hitherto, we come to the little Alpine State of Sikkim, where we find the aboriginal tribe calling themselves Rong, but better known by the name of Lepcha. As we have already seen, the Lepchas are acquainted with writing; but the manner of its introduction is not known. A portion of the scriptures has been translated into their tongue, and a grammar was published by Col. Mainwaring in 1876. The Lepcha alphabet is, like the Indian, syllabic, and contains 51 simple characters. Seven of these are vowel-signs, and forty-four present consonants, nine of which stand for the only letters occurring as finals. Some of the characters stand for sounds unrepresented in the Indian alphabet—as *f*, *ts*, and *z*; others represent a combination of sounds—as *kl*, *gl*, *pl*, *fl*, etc. Only the vowels and eight consonants, viz. *k*, *ng*, *t*, *n*, *p*, *m*, *r*, and *l*, can end a word. The cerebrals and sonant aspirates are wanting, as was pointed out of the Tibetan, and is true generally of languages of the same kindred.

The Lepcha is monosyllabic only in the sense that its uncompounded roots consist of a single syllable. Dissyllabic and a few trisyllabic words occur, but their composite character is easily discerned. Gender is not indicated by grammatical suffixes, but by special sexual terms, or by added words signifying 'male' or 'female.' These last are different for human beings and for inferior animals, and with the latter they vary somewhat with the genus of the object.

The numbers are recognized, of which the dual and plural are denoted by the suffixes, but only when the number is not fixed by the context. The dual suffix is clearly related to the numeral

"two." There are two plural endings, one being commonly applied to human beings, and the other to the inferior animals and inanimate objects. Nouns assume certain syllables to express relation. These are in part words which have an independent status in other connections, and may be classed as postpositions; and are in part fragments of such words, reduced to servile use. An adjective following its substantive takes the endings instead of the latter being declined.

Pronouns take the same endings as nouns, the first person plural making no distinction of inclusive and exclusive forms. A possessive pronoun is formed by using a slightly modified form of the genitive of the personal pronoun as a base, to which are appended the ordinary endings of declension. The language is said to have a relative pronoun, which also appears to have an interrogative sense. The verb belongs to the non-pronominalizing order, making no distinction of number or person. By the use of added syllables, most of which are in reality auxiliary verbs, the ordinary distinctions of tense are expressed, and in a rude way those of mode. There is no proper passive voice, but either the construction is avoided, or an expression is used which signifies the arriving at an action; thus, "he is come to a beating" instead "he is beaten." In some of the Tibeto-Burman and So. Indian languages the negative is expressed by a form of conjugation. In Lepcha a negative participle both precedes and follows the verb. Lepcha Syntax is of course very simple. The subject stands first and the verb last. Pronouns and adjectives, including the words employed as articles, follow their substantives. The genitive of the personal pronoun, however, used as a possessive, together with limiting substantives in general, precedes the limited word.

Directly east of the Lepchas are the Bhutanese whose language, being a dialect of Tibetan, requires no further description. We have now come to the border of Assam; but before following the highlands into that province, we will descend to the foot of the hills, where in the malarial swamps and on the plains are found several of the most populous and widely-spread tribes of aborigines in this part of India. They are the Koch, the Bodo or Kachari, and the Dhimal. Though they prefer the *sal* forests of the Terai, where they lead a nomadic life, they are also found scattered over the plains of Assam, and as far south as the district of Kachar, near the border of Burma. In this situation they are intimately mixed with the Hindus, and have adopted their religion and social customs. The primitive language of the Koch has nearly disappeared, being replaced by corrupt Bengali. The languages of the Dhimal and Kachari have maintained themselves better, and we are able to get some insight into their structure through the researches of Mr. Hodgson. In their general features they closely resemble the Lepcha. Gen

indicated and nouns are declined in a similar manner. The definite and indefinite article is expressed by the demonstrative pronoun and the numeral 'one.' Only two numbers are recognized, with faint traces of a dual in Dhimal. Adjectives precede or follow their substantives. Comparison is effected in the manner usually in this group of languages, namely, the object with which comparison is made takes an inflected form—a genitive or dative—and is followed by a particle corresponding to our 'than'; thus, "that good than this" expresses "this is better than that," and "all good than this" stands for "this is best of all." An indigenous relative pronoun can hardly be said to exist. The genitive of the personal pronoun seems to denote possession. The Kachari has native names for the cardinal numerals only to seven, and the Dhimal only to ten. To express higher numbers Hindu terms are borrowed. The verb in Kachari is of the simple type, but in Dhimal there is an approach to pronominalization, consisting in a repetition of the personal pronoun after the verb; this, however, is confined to the first and second person. Tense is expressed in Dhimal by the appendage of auxiliary verbs to an unvarying root. This is effected in Kachari in the same manner, but with the addition of certain suffixes. Negation in connection with the imperative mode is expressed by a negative adverb, but in the other parts of the verb the Kachari inserts a negative particle between the root and tense-suffix, by which it becomes a form of conjugation. This is the first time we have met what is called the "negative voice" by some writers. The syntax of these languages is simple and loosely constructed. The verb usually stands at the end of the sentence. Much use is made of participles in place of relative and other subordinate clauses.

Returning, now, to the hills, and pursuing our way eastward, we find a series of tribes whose languages are supposed to belong in this group, but about which we have little information, save what can be derived from brief vocabularies.

They are, in their order from west to east, the Akas, Dophlas, Miris, Abors, and Mishmis. The verb in these languages is of the simple type. The Dophla, Mini, and Abor languages show signs of closer relationship to one another than to the others in the list. They are characterized by the use of a single consonant, instead of a syllable, to express the accusative and genitive relation, and by the frequent prefixion of a vowel where it does not occur with the same words in the other languages. The most easterly of the tribes named brings us to the farthest limits of Assam, and to the borders of Burma, where we find the Singphos, another of these kindred tribes, who have only recently made settlement in British territory, and who, under the name Kakhyen, extend across upper Burma into the western part of the Chinese province of Yunnan. The Singpho verb is of the simple type. A prefixed nasal serves as

a negative with verbs and a determinative with nouns. In vocabulary the Singpho is largely coincident with Burmese. In the same region, and intimately mingled with the Singphos, are the Khamtis, likewise a tribe of new-comers; but they speak a monosyllabic tongue, with which we have no present concern. At this point we touch the ground of the second most important member of the group under review; but we will reserve its description until we shall have exhausted the list of minor languages in the same and adjoining territory.

Following westward the trend of the mountains which form the southern border of the Assam valley, we find ourselves in the somewhat extensive territory of the Naga tribes, which may be said to cover the highlands between the 93d and 97th degrees of east longitude.

This people—if, indeed, they can be called one people—is still in a savage condition. Incessant intertribal feuds have divided them into innumerable hostile sections, and favored the multiplication of dialects. It is estimated by those who know the Nagas best that not less than 30 dialects represent the diversities of their speech. No grammar is yet forthcoming; but brief vocabularies of several of the dialects have been collected by Rev. N. Brown and others, and within a year the Gospels by Matthew and John have been translated into the speech of the Ao-Naga tribe. We may hope, with the help of this, soon to get a better insight into the structure of the language. There is no doubt that this group of dialects—or languages, as we perhaps ought to call them—belongs within the larger Tibeto-Burman group.

The structure of the verb is nearly everywhere of the simple type; though in the Namsary dialect it is peculiar in having endings of person but not of number, and in denoting past time by a letter affixed, and future time by a letter prefixed. It also has a proper possessive pronoun, not using in place of it the genitive of the personal pronoun, as do most of the Tibeto-Burman languages. Adjoining the Nagas on the west are the Mikirs, whose vocabulary has much in common with the Namsary-Naga, though their verb is not of the complex type.

Passing on westward we come to the Khasis and Jyntas, whose language differs so greatly in structure and vocabulary from surrounding tongues that it has been provisionally set in a class by itself, and need not detain us here. The last tribe of this border range is the Garos. We are able to judge of their language by a rather defective, but useful, grammar prepared by Rev. T. J. Keith, and by portions of the Bible translated into their idiom. The Garo finds its nearest kindred in the Kachari, of which we have already spoken; the Deori Chutia, a fragment of the speech of the ancient conquerors of Upper Assam; the Pani-Koch, spoken by a little settlement of the distant tribe that we fell in with in the forests of northern Bengal; and the 1

whose home is on the Chittagong hills. To describe the Garo in detail would be to recapitulate much that we have said before. It has no dual; a plural suffix is used when the number is not made clear by the context; substantives followed by numeral adjectives take, besides, generic particles, varying according to the object represented. Nouns and pronouns take the same declensional endings. Possessive and relative pronouns are wanting, except that the Bengali relative pronoun is occasionally borrowed. The first personal pronoun has in the plural an exclusive and inclusive form. Comparison is effected in the manner already described, the object with which comparison is made being in the dative case. The verb makes no distinction of number or person, except the imperative, which has a second and third person. The adverbial modifiers which some languages prefix to verbs and others affix are in Garo infixed between the root and tense-suffix. This is not a common usage in this group of languages, but there are traces of it in Kachari. The language can fairly express action in relation to its time and progress, but is poorly supplied with mode-forms. Instead of the last, independent verbs are for the most part employed. An interesting verb-form denoting a supposition contrary to fact is sometimes used. It is formed by adding to the root the united suffixes of the future and remote past. The first seems to convey the idea of something not yet a fact, merely conceived of; by adding to this the second suffix the conception is removed to the past, and its unrealizable character is symbolized. The order of the elements of the sentence is wholly like that more than once described.

South of the Assam hills are found numerous languages and dialects which have the characteristics of the Tibeto-Burman group; but most of them are as yet little known. The Manipuri, spoken in the valley south of the Angami-Naga country, is the only one of the number that can boast of any cultivation. It has written characters, derived from India, and some literature inspired from the same source. Besides vocabularies, we have grammatical notes on this language by the late Capt. Darnant.

West and south of the Manipuri are the Kuki and Khyeng tribes. Major Fryer has given us a brief grammatical sketch of Khyeng speech, which has some interesting peculiarities. Gender is denoted by added words for "male" and "female," which differ somewhat according to the nature of the object. Three numbers are recognized, but they are distinguished only with nouns and pronouns. Three cases—genitive, dative, ablative—are formed by suffixes; but the genitive-ending is commonly omitted, and the relation is indicated solely by the position, the limiting before the limited substantive. The pronouns have full and abbreviated forms, the latter being used as prefixes or suffixes. The Khyeng verb is of the complex type, and a striking feature of it, which it shares with Kuki, is that the signs of person and number are

prefixed, instead of affixed, as is usual. Tenses, on the other hand are formed by added syllables. Modes are supplied by the use of independent verbs. There are so-called participles denoting present and past time, but they are in the genitive and the dative case respectively, and seem to be understood as verbal nouns. A negative conjugation is formed by omitting the pronominal prefix and replacing it by a negative letter, or by inserting the same between root and tense-ending, or by both at once. A similar mode of expressing negation is employed in Manipuri and the Kuki dialects. Little can be said at present of the Kumi, Mru, Banjogi, Shendu, and other tongues spoken in the mountains forming the back-bone of the peninsula. From specimens that we have, it appears that prefixed letters are much used as determinatives, and that the verb is of the simple type. In Kumi, suffixes are employed to denote sex, which are nearly identical with those sometimes so-used in Tibetan.

The Karen dialects of British Burma are placed in this group by some writers, but by others are classed with the Siamese and other isolating languages. In fact, they have some of the features of both groups. Like the latter, they make great use of tones, and place the verb before its object. They resemble the former in vocabulary and in the position of the limiting before the limited substantive—a position the reverse of that usual in Mon-Anam speech. The verb is not inflected for number or person. Pronouns of the first and second person precede the verb, and that of the third person follows. So, case-particles precede the noun. Only vowels or a nasal occur as finals.

The last language to be mentioned in this group, and the only one which compares with the Tibetan in literary cultivation is the Burmese. Its written characters and an important part of its vocabulary were borrowed from India. It is spoken over the greater part of British and Independent Burma, and has several dialects, of which the Arakanese is alone important. The Burmese alphabetic system is syllabic, each consonant having an inherent a-vowel, and it contains characters for sounds which do not belong to the language, but have come in with Pali words and the Buddhist religion. These are the cerebral row of consonants and the sonant aspirates.

Burmese has fewer silent letters than Tibetan, but its pronunciation has departed widely from its written form. This consists largely in the assimilation, without change of spelling, of the final and initial letters of such loose compounds as occur; thus, *keng-kaw* is pronounced *keng-gaw*; *tsa-pa*, *tsa-ba*; *man-gyi*, *mag-gyi*; *theng-baw*, *them-baw*. Much more is made of tones in Burmese than in Tibetan, the latter employing instead determinative syllables. The relations of substantives to other words in the sentence are expressed by added elements, some of which have sunk to the condition of true suffixes, and others at"

preserve an independent character. An evidence of the loose attachment of these signs of dependence is their frequent absence when the sense can be determined without them. Adjectives usually follow, but may precede, their substantives. With numeral adjectives much use is made of generic particles. The Burmese verb takes tense-endings, and one of number—often omitted—but no personal endings. The place of the verb is at the end of the sentence.

We have now completed our survey of the languages of the Tibeto-Burman group, and have found them to be very numerous—how numerous, cannot, with our present knowledge, be stated with precision. Mr. Cast enumerates 71 languages and 81 dialects, exclusive of the China group—that is, the speech of aboriginal tribes, in Yunan, of whom we know very little,—and his Island group, which we do not propose to include in our list; but such statements must be regarded as only approximations to the truth. So many of the Himalayan and Indo-Chinese tribes are living in a savage and isolated condition that the degree, and, in some cases, even the fact of their relationship is still a matter of dispute. What are now regarded as dialects may be promoted to the dignity of languages, and what are called languages may be reduced to the rank of dialects. It only remains to gather into more compendious form the facts that we have been able to observe, and to compare them a little more fully than we have yet done with corresponding usages in neighboring groups of speech.

1. We have noted that the Tibeto-Burman alphabets want the Indian cerebrals and sonant-aspirates, except so far as they have been introduced in writing with foreign words, and in that case they do not retain their original pronunciation. Both classes of sounds are found in the Santal, a Kolarian language of Central India, and in the Telugu, Canarese, and Malayalin of the Dravidian family—though chiefly in Sanskrit derivatives. The Tamil has discarded aspirants.

2. These languages are not so dependent upon position to express the relations of words in a sentence as are the languages lying on their eastern border. Besides proper suffixes, prepositional words, derived from nouns and other parts of speech, are much used, and regularly follow the words which they limit.

3. Pronouns have the same declensions as nouns. A proper possessive pronoun has been developed from the genitive of the personal pronoun in a few instances, but generally the simple genitive serves in its place. So, the Santal inflects the genitive of the personal pronoun, while its near kindred the Kol uses it without inflection. Inclusive and exclusive forms of the plural or dual of the 1st personal pronoun occur here, as in Central and Southern India. The absence of the relative pronoun as an

original possession in these languages is also a feature in which they coincide with Kalarian and Dravidian speech.

4. The Tibeto-Burman languages do not distinguish so clearly as we are accustomed to do between verbs and nouns. Where we use a verb-form they oftener employ a verbal noun with a copula expressed or understood and the agent in the instrumental case. In a majority of the idioms there is no distinction of number or person in the verb; a few make it in part, and the Kiranti alone has it complete. Tense is generally denoted by suffixes, rarely by prefixes or change of root-vowel. A negative conjugation like that in the Dravidian verb occurs in several languages, but negation is also expressed by a separate particle used as an adverb.

5. There is a customary order of words in the Tibeto-Burman sentence, but it admits of some variation. The subject stands first and the verb last. The adjective commonly follows the substantive, taking the endings of declension; or may precede it, in which case it seems to be regarded as a noun of quality, taking in Tibetan the genitive suffix. The last is the ordinary position of a limiting noun. The same rules of position are observed in the Kolarian and Dravidian languages, except that the adjective precedes the substantive. The Chinese agrees with the Tibeto-Burman languages in placing the limiting before the limited substantive, while the Mon-Anam languages of Indo-China reverse the order. Another point of difference is that the isolating tongues agree in placing the verb before the object instead of at the end of the sentence. The Chinese puts the adjective before the substantive when it is used attributively, but the Tibeto-Burman and Mon-Anam groups place it after. From this it is evident that the order of words in a sentence is not of itself sufficient to determine genetic relationship.

Thus far in our inquiries we have not alluded to an important source of evidence regarding special affinities existing between the members of the group, and between the group as a whole and neighboring idioms—we refer to that derived from a comparison of roots. But, instructive and enticing as the investigation would be, it would unduly extend the limits of this paper, and we must content ourselves at present with the partial survey that has been made.

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Brunswick, Me., July 4, 1885.

THE PHONETIC ELEMENTS IN THE GRAPHIC SYSTEM OF THE MAYAS AND MEXICANS.*

All who have read the wonderful story of the Spanish conquest of Mexico and Central America will remember that the European invaders came upon various nations who were well acquainted with some method of writing, who were skilled in the manufacture of parchment and paper, and who filled thousands of volumes formed of these materials with the records of their history, the theories of their sciences, and the traditions of their theologies. Aiming at greater permanence than these perishable materials would offer, they also inscribed on plinths of stone, on slabs of hard wood, and on terra cotta tablets, the designs and figures which in the system they adopted served to convey the ideas they wished to transmit to posterity.

In spite of the deliberate and wholesale destruction of these records at the conquest, and their complete neglect for centuries afterwards, there still remains enough, were they collected, to form a respectably large *Corpus Inscriptionum Americanarum*. Within the present century many Mexican and Maya MSS. have for the first time been published, and the inscriptions on the temples of southern Mexico and Yucatan have been brought to the tables of students by photography and casts, methods which permit no doubt as to their faithfulness.

Nor have there been lacking diligent students who have availed themselves of these facilities to search for the lost key to these mysterious records. It is a pleasure to mention the names of Thomas and Holden in the United States, of De Rosny, Aubin and de Charencey in France, of Forestmann and Schellhas in Germany, of Ramirez and Orozco in Mexico. But it must frankly be confessed that the results obtained by all of these have been inadequate and unsatisfactory. We have not yet passed the threshold of investigation.

The question which forces itself upon our attention as demanding a reply at the very outset is **whether the Aztec and Maya systems of writing were or were not, in whole or in part phonetic systems?** Did they appeal, in the first instance, to the *meaning* of the word, or to the *sound* of the word? If to the latter, if, in other words, they were phonetic, **or even partially phonetic**, then it is vain to attempt any interpretation of these records without a preliminary study of the **languages of the nations** who

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were the writers. These languages must moreover be studied in the form in which they were spoken at the period of the conquest, and the course of native thought as expressed in the primitive grammatical structure must be understood and taken into account. I hasten to add that we have abundant materials for such studies.

This essential preliminary question, as to the extent of the phonetic element in the Mexican and Maya systems of writing, is that which I propose to put at present, and to answer it, so far as may be. Hitherto, the greatest diversity of opinion about it has prevailed. Some able writers, such as Valentini and Holden, have questioned the existence of any phonetic elements; but most have been willing to concede that there are such present, though the quantity and quality are by no means clearly defined.

We may assume that both systems under consideration are partly ideographic. Every system of phonetic writing introduces ideograms to some extent, our own among the number. The question is, to what extent.

But before we are prepared to answer question, about the extent of the phonetic element, we must seek to ascertain its character. We are all aware that a phonetic symbol may express the sound either of a whole word or several syllables, or of a single syllable, or of a simple acoustic element. Again, a single phonetic symbol may express several quite diverse sounds, as is familiarly exemplified in the first letter of the English alphabet which represents three very different sounds; and, on the other hand, we may find three, four or more symbols, no wise alike in form or origin, bearing one and the same phonetic value, a fact especially familiar to Egyptologists.

We must further bear in mind that the arrangement to the eye of phonetic symbols is altogether arbitrary. Because a prefix is pronounced first in the order of time and a suffix last, it by no means follows that the order in space of their corresponding symbols shall bear any analogous relation. The idea awakened by the sound of the word is a whole, and one, and so that this sound is represented, the disposition of its component parts, is, philosophically speaking, indifferent. When it is remembered that in most American languages, and notably in the Mexican or Nahuatl, there is a tendency to consolidate each phrase into a single word, the importance of this consideration is greatly increased.

As the position of the phonetic parts of the phrase-word may thus be disregarded, yet more indifferent is the order of sequence of the symbols. There is no *a priori* reason why this should be from left to right as in English, or from right to left as in Hebrew; alternately, as in the BOUSTROPHEDON of the Greek, or from top to bottom as in Chinese.

In such an examination as the present one, we must rid our minds of the expectation of finding the phonetic elements in some familiar form, and simply ask, whether they are to be found in any form.

We are not without a trustworthy guide in this quest. It is agreed among those who have most carefully studied the subject that there is but one path by which the human mind could have originally proceeded from picture-writing or thought-writing, to phonetic or sound-writing. This was through the existence of homophones and homoiophones in a language, of words with the same or similar sounds, but with diverse significations. The deliberate analysis of a language back to its phonetic elements, and the construction upon those of a series of symbols, as was accomplished for the Cherokee by the half-breed Sequoyah, has ever been the product of culture, not a process of primitive evolution.

In this primitive process the sounds which were most frequently repeated, or were otherwise most prominent to the ear would be those first represented by a figure; and the same figure would come to be employed as an equivalent for this sound and others closely akin to it, even when they had other connections and bore other significations. Hence affixes, suffixes, monosyllabic words, and accented syllables of polysyllabic words, are those to which we must look as offering the earliest evidences of a connection of figure with sound.

According to the theory here very briefly indicated, I shall examine the Maya and Nahuatl systems of writing to ascertain if they present any phonetic elements and of what nature these are.

Turning first to the Maya, I may in passing refer to the disappointment which resulted from the publication of Landa's alphabet by the Abbe Brasseur in 1864. Here was what seemed a complete phonetic alphabet, which should at once unlock the mysteries of the inscriptions on the temples of Yucatan and Chiapas and enable us to interpret the script of the Dresden and other Codices. Experience proved the utter fallacy of any such hope. Prof. Valentini has even condemned Landa's alphabet as a Spanish fabrication. But the Bishop must be declared innocent of such an intention. His work is no key to the Maya script; but it does indicate that the Maya scribes were able to assign a character to a sound, even a sound so meaningless as that of a single letter.

The failure of the Landa alphabet was complete, and left many scholars total skeptics as to the phonetic values of any of the Maya characters. To name a conspicuous and recent example, Prof. Leon de Rosny, in his edition of the *Codex Cortesianus*, published in 1883, appends a Vocabulary of the hieratic signs as

far as known; but does not include among them any phonetic signs other than Landa's.

But if we turn to the most recent and closest students of these records, we find among them a consensus of opinion that a certain degree, though a small degree, of phoneticism must be accepted. Thus our own able representative in this branch, Prof. Cyrus Thomas, announced in 1882, in his *Study of the MS. Troano*,* that several of the day and month characters are, beyond doubt, to a certain extent phonetic.

Prof. Forstemann, of Dresden, whose work on the Dresden Codex has appeared within the present year, announces his conclusion that the Maya script is essentially ideographic;† but immediately adds the numerous small figures attached to the main sign are to be considered phonetic, and no matter in what local relation to this main sign they stand, they are to be regarded either as prefixes or suffixes of the word. He does not attempt to work out their possible meaning, but, as he says, leaves that to the future.

Almost identical is the conclusion of Dr. Schellhas, whose essay on the Dresden Codex‡ has also appeared within the present year. His final decision is in these words: "The Maya writing is ideographic in principle, and probably avails itself in order to complete its ideographic hieroglyphs of a number of fixed phonetic signs."

Some of these signs have been so carefully scrutinized that their phonetic value may be considered to have been determined with reasonable certainty. An interesting example is shown on Fig. 1. for the analysis of which we are indebted to Dr. Schellhas.

The quadrilateral figure at the top represents the firmament. One of the squares into which it is divided portrays the sky in the day time, the other, the starry sky at night. Beneath each are white and black objects, signifying the clouds, from which falling rain is indicated by long zigzag lines. Between the clouds on

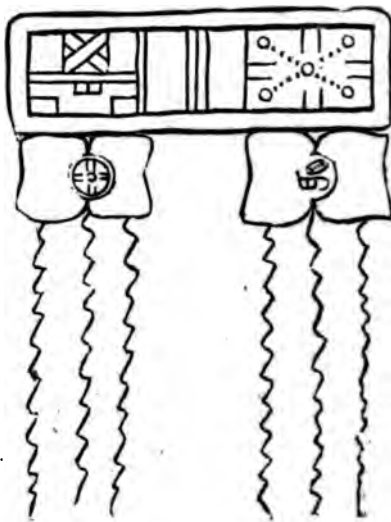


Fig. 1.—The Maya Hieroglyph of the Firmament.

*Study of the MS. Troano, p. 141.

†Erläuterungen der Maya handschrift, etc., p. 2. (Dresden, 1886.)

‡Die Maya-Handschrift der König. Bibl zu Dresden, p. 77; (Berlin, 1886.)

the left of the figure is the well-known ideogram of the sun, on the right that of the moon. In the Maya language the sun is called *kin*, the moon *u*, and these figures are found elsewhere, not indicating these celestial bodies, but merely the phonetic values the one of the syllable *kin*, the other of the letter *u*. The two signs given in Landa's alphabet for the letter *u* are really one, separated in transcription, and a variant of the figure for the moon with the wavy line beneath it. The word *u* in Maya is the

possessive adjective of the third person, and as such is employed in conjugating verbs, the Maya verbal being really a possessive.

A very common terminal syllable in Maya is *il*. It is called by grammarians "the determinative ending," and is employed to indicate the genitive and ablative relations. Dr. Schellhas considers that this is represented by the signs affixed to the main hieroglyphs shown on Fig. 2.*

The upper figure he reads *kin-il*, the lower *cim-il*. The two signs are the title to a picture in the Codex Troano representing a storm



Fig. 2—Maya Phonetic Terminals.

with destruction of human life. The two words *kin-il cim il* may be translated "At the time of the killing." The syllable *cim* is expressed in several variants in the Codices, examples of two of which, from the Dresden Codex are presented in Fig. 3.

The signs for the four cardinal points appear to be expressed phonetically. They are represented in Figs. 4 and 5. The words are for North, *xaman*, East, *lakin*, South, *uohil*, West, *chikin*. Of these the syllable *kin* appears in *lakin* and *chikin* and is represented as above described. The word for North has not been analyzed; that for South has been translated by

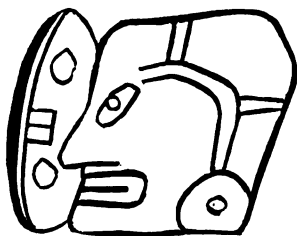


Fig. 3—Maya Phonetic Terminals.

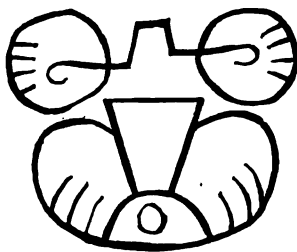
*Die Maya-hand-schrift, etc., p. 47.

Prof. Londe Rosny as *ma ya*, the word *ma* meaning hands or arms, the lower as either a fruit or the masculine sign, in either case the phonetic value being alone intended. Both the name and the etymology are, however, doubtful, resting upon late and imperfect authorities.

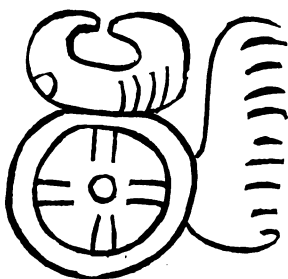
By pursuing the plan here indicated, that is, by assuming that a figure whose representative value is known, has also a merely



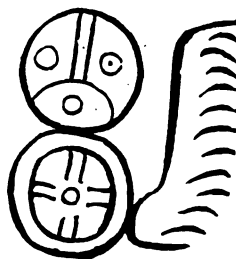
North.



South.



East.



West.

Figs. 4 and 5—Signs of the Cardinal Points in Maya.

phonetic value in other combinations, a certain number of phonetic elements of the Maya tongue have been identified. Prof. Cyrus Thomas, in an article published in March of the present year, states that he has "interpreted satisfactorily to himself twelve or fifteen compound characters which appear to be phonetic."*

It is obvious, however, that small progress has been made in this direction compared to the labor expended. By far the greater number of the fixed symbols of the Maya are yet undeciphered. It is acknowledged by all recent students that they cannot be representative, as they recur too frequently. To explain them, there is but one sure course, and that is, by a close analysis of the Maya language to get at the relations of ideas in the native mind as expressed in their own phonetic system.

When we turn to the Mexican system of writing, much

*American Antiquarian, March, 1886.

definite and extensive information as to its phonetic elements awaits us. It is possible that at bottom it has really no higher phonetic character, but several facts have combined to give us a better understanding of its structure. In the first place, more examples of it have been preserved, some of these with more or less accurate translations. Again, the earlier writers, those whom we look upon as our historical authorities, have been more explicit and ample in their description of Mexican native literature than of that of Yucatan. Finally, and most important, the Mexican language, the Nahuatl, was studied at an early date and with surprising thoroughness, by the Catholic priests. Within a generation after the conquest they had completed a quite accurate analysis of its grammatical structure, and had printed a Nahuatl-Spanish dictionary containing more words than are to be found in any English dictionary for a century later.

These intelligent missionaries acquainted themselves with the principles of the Mexican script, and to a limited extent made use of it in their religious instructions, as did also the Spanish scribes in their legal documents in transactions with the natives. They found the native phonetic writing partly syllabic and partly alphabetic; and it was easy for the priests to devise a wholly alphabetic script on the same plan. An interesting example of this is preserved in the work of Valades, entitled *Rhetorica Christiana*, written about 1570. Familiar objects are represented, chiefly of European introduction. Each has the phonetic value only of the first letter of its Nahuatl name. The plan is extremely simple and indeed the forms and names of the Hebrew letters seem to indicate that they arose in the same way. Applying it to English, we should spell the word *cat* by a picture of a chair, of an axe, and of a table, each of these being the recognized symbol of its first phonetic element or initial letter. Often any one of several objects whose names began with the same letter could be used, at choice. This is also illustrated in Valades' alphabet, where, for instance, the letter *E* is represented by four different objects.

As I have observed, the native genius had not arrived at a complete analysis of the phonetic elements of the language; but it was distinctly progressing in that direction. Of the five vowels and fourteen consonants which make up the Nahuatl alphabet, three vowels certainly, and probably three consonants had reached the stage where they were often expressed as simple letters by the method above described. The vowels were *a*, for which the sign was *atl*, water; *e* represented by a bean, *etl*; and *o* by a footprint, or path *otli*; the consonants were *p*, represented either by a flag, *pan*, or a mat, *petl*; *t*, by a stone *tetl*, or the lips, *tentli*; and *s*, by a lancet, *so*. These are, however, exceptions. Most of the Nahuatl phonetics were syllabic, sometimes one, sometimes two syllables of the name of the object being employed. When the whole

name of an object or most of it was used as a phonetic value, the script remains truly phonetic, but becomes of the nature of a rebus, and this is the character of most of the phonetic Mexican writing.

Every one is familiar with the principle of the rebus. It is where a phrase is represented by pictures of objects whose names bear some resemblance in sound to the words employed. A stock example is that of the gallant who to testify his devotion to the lady of his heart whose name was Rose Hill, had embroidered on his gown the pictures of a rose, a hill, an eye, a loaf of bread, and a well, which was to be interpreted, "Rose Hill, I love well."

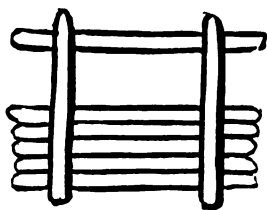


Fig. 6—Mexican Phonetic Hieroglyphics of the name of Montezuma.

tography. It differs radically from picture-writing (*Bilderschrift*), for although it is composed of pictures, these were used solely with reference to the sound of their names, not their objective significance.

The Mexicans in their phonetic writing, were never far removed from this ikonomatic stage of development. They combined however, with it certain clearly defined monosylla-

In medieval heraldry this system was in extensive use. Armorial bearings were selected, the names of the elements of which expressed that of the family who bore them. Thus Pope Adrian IV whose name was Nicolas Breakespeare, carried the device of a spear with a broken shaft; the Boltons of England wear arms representing a cask or *tun* pierced by a cross-bow shaft or *bolt*; etc. Such arms were called *canting* arms, the term being derived from the Latin *cantare*, to sing or chant, the arms themselves chanting or announcing the family surname.

We have, so far as I am aware, no scientific term to express this matter of phonetic writing, and I propose for it therefore the adjective *ikonomatic*, from the Greek *eikon*, a figure or image, and *onoma* (genitive, *onomatos*) name,—a writing by means of the names of the figures or images represented. The corresponding noun would be *ikonoma-*

and the separate alphabetic elements which I have already noted. An examination of the MSS, proves that there was no special disposition of the parts of a word. In other words, they might be arranged from right to left or from left to right, from below upwards or from above downwards; or the one may be placed within the other. It will easily be seen that this greatly increases the difficulty of deciphering these figures.

As illustrations of the phoneticism of Mexican writing I show two compounds, quoted by M. Aubin in his well known essay on the subject. The first is a proper noun, that of the emperor Montezuma (Fig. 6.) It should be read from below upward. The picture at the base represents a mouse trap, in Nahuatl, *monltli*,

with the phonetic value *mo*, or *mon*; the head of the eagle has the value *quauh*, from *quauhtli*; it is transfixt with a lancet, *so*; and surmounted with a hand, *mahtl*, whose phonetic value is *ma*; and these values combined give *mo-quauh-so-ma*.

The second example is a common noun, the name of a serpent *tecuhltlacozauiqui*, (Fig. 7.) It is also read from below upward; the head with the peculiar band and frontal ornament is that of one of the noble class, *tecuhltli*; the central figure is a familiar sign for *lla*, and represents two teeth, *tlantli*; they are surmounted by a jar, comitl with the value *co*; and this in turn is pierced by a lancet, which here has only its alphabetic value *s*. The remainder of the word was not expressed in the writing, the above much being deemed sufficient to convey the idea to the reader.

In presenting these examples I do not bring forward anything new. They are from an essay which has been in print nearly forty years*. Many other examples are to be seen in the great work of Lord Kingsborough, and later in publications in the city of Mexico. The learned Ramirez undertook a dictionary of Nahuatl hieroglyphics which has in part been pub-

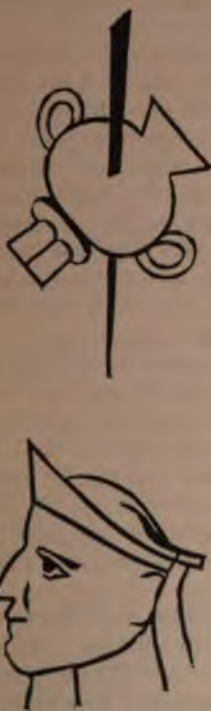


Fig. 7.—Mexican Phonetic Hieroglyphics of the name of a Serpent.

*The first of M. Aubin's *Memoirs* appeared in 1849 and was the result of studies begun in 1830. A new and enlarged edition has lately been edited by Dr. Hamy: *Memoires sur la Peinture Didactique et l'Écriture Figurative des Anciens Mexicains*. Par J. M. A. Aubin [Paris 1883.] But Dr. Hamy has traveled very far beyond limits of a sober appreciation of M. Aubin's results when he writes: "Les recherches de M. Aubin ont réussi à résoudre presque toutes les difficultés que présentait la lecture des hieroglyphes nahuas." [Introduction p. viii.] He is also in error in supposing [in a note to same page] that Aubin's theory is not well known to Americanists. Brasseur popularized it in his introductions to his *Histoire du Mexique*. Aubin, in fact, guided by the Spanish writers of the 16th century and the annotators of the *Codices*, first clearly expressed the general principles of the phonetic picture writing; but his rules and identifications are entirely inadequate to its complete or even partial interpretation.

lished; Orozco y Berra in his History of Ancient Mexico gathered a great many facts illustrative of the phonetic character of the Mexican script; and within a year Dr. Penafiel has issued a quarto of considerable size giving ancient local Mexican names with their phonetic representations.*

With these aids at command, why had not our progress in the interpretation of the ancient records on stone and paper been more rapid? Why do we stand now almost at the same point as in 1850?

There can be but one answer, and that will immediately suggest itself from the nature of the phoneticism in the Mexican writing. What I have called the *ikonomatic* system of writing can be elucidated only by one who has a wide command of the vocabulary of the language. Consider, for a moment, the difficulty which we experience, with all our knowledge of our native tongue, in solving one of the rebuses which appear in the puzzle column of periodicals for children; or in interpreting the canting arms in armorial bearings. Not only must we recall the various names of the objects represented, and select from them such as the sense of the context requires, but we must make allowance for extensive omissions, as in one of the examples above quoted (Fig 7.) and for mere similarities of sound, often quite remote, as well as for the abbreviations and conventionalisms of practiced scribes, familiar with their subject and with this method of writing the sounds of their language.

Such difficulties as these can only be overcome by long-continued application to the tongues themselves, and by acquainting oneself intimately with the forms, the methods, and the variations of this truly puzzling graphic system. Every identification is solving an enigma; but once solved, each illustrates the method, confirms its accuracy, and facilitates the learner's progress, and at the same time stimulates him with the joyous sense of difficulties conquered, and with the vision of discovered truth illuminating his onward path.

Although, as I have stated, the general principles of this method were pointed out forty years ago, the prevailing ignorance of the Nahuatl language has prevented any one from successfully deciphering the Mexican script. This ignorance has had even a worse effect. Men who did not know a dozen words of Nahuatl, who were unable to construe a single sentence in the language, have taken upon themselves to condemn Aubin's explanations as visionary and untrue, and to deny wholly the phonetic elements of the Mexican writing. Lacking the essential condition of testing

*Orozco y Berra, *Historia Antigua de Mexico*, [Mexico, 1880.] The Atlas to this work contains a large number of proposed identifications of hieroglyphics. See also by the same writer, *Ensayo de Descifracion Jeroglifica* in the *Anales del Museo Nacional* Tom II. Much of this is founded on Ramirez's studies, who, however, by his own admission, knew little or nothing of the Nahuatl language [as he states in his introduction to the *Codex Chimalpopoca* or *Anales Quauhilitlan*.] Dr. Penafiel's praiseworthy collection is entitled *Catalogo Alfabetico de nombres de Lugares pertenecientes al Idioma Nahuatl, Estudio Jeroglifico*. [1]

the accuracy of the statement, they have presumed blankly to condemn it!

In contrast to such, I take peculiar pleasure in referring to the singular success in this method of interpretation by a student of Mexican Archæology, whose results will be announced in greater detail hereafter. I refer to Mrs. Zelia Nuttall Pinart. The intimate acquaintance which this lady possesses of Mexican life and manners, and of the earliest writers and historians of that country has felicitously supplemented her knowledge of the Nahuatl tongue to enable her to make remarkable progress in deciphering the ancient Mexican memorials. She has applied the method which she has developed to the Vienna Codex, the Borgian and Fejevary Codices, and to the inscriptions on the celebrated Calendar and Sacrificial Stones. The results she has obtained cast an entirely new light on ancient Mexican history and social life, and her conclusions, if established, will deal a severe blow at most of the prevailing theories regarding the government, religion and mythology of the Aztec and allied tribes. Among the theories thus threatened are some I have advocated in former publications; but for all that, I am bound to express the conviction that she is on the right track, and that the extensively phonetic character of the Mexican script will be victoriously demonstrated by her researches.

DANIEL G. BRINTON, M. D.

Philadelphia, Pa., October, 1886.

THE ORIGIN AND ANTIQUITY OF THE NEW YORK IROQUOIS.

When the Dutch settled in New York the Five Nations occupied the country from a point near Schenectady westward, almost to the Genesee river. They were not then very powerful, though constantly at war, but soon obtained guns; and by the use of these, advantage of position, courage, unity of action and shrewd management, they became the most famous and influential of the Indian nations. Confined to the limited space indicated less than three centuries since, they extended their home territory to the Hudson and Lake Erie, and made a vast region tributary. Their important position between the French and English made them conspicuous in history, and the long duration of their League gave that a prominence which other Indian confederacies never attained.

The questions of their origin and antiquity have often been argued but on very insufficient grounds, and although we have much to learn, yet these subjects will be stated as they now appear by the added light of the past few years.

Among the things now evident are these: That no nations of the Algonquins had occupied their territory before them, or even any of the Huron Iroquois family to any extent, either in Canada or New York; that the Iroquois family came from the north and west, and had not reached the Atlantic coast, unless in the occasional visits of the Tuscaroras, Andastes and Massawomekes; that the early New York Iroquois were derived from at least three sources; that part of them did not enter New York until near the close of the 16th century; that the League was not formed before the year 1580, if as early as that.

Neither in Canada nor a large part of New York, are the grooved stone axes, so common as an Algonquin possession, found except as rare and accidental examples. Whatever may be the difference in relics on sites of any age, all agree in this, thus separating a large district in Canada and New York from all others.

The New York Iroquois had not reached the sea in their migrations from the north and west, being shut off by the preceding Algonquin nations. But one shell bead has been found on prehistoric sites in the Mohawk valley, and not one, as far as I can ascertain, on an unmixed site in the early Iroquois country further west. An old grave adjoining a recent site on Cayuga lake, which contained long shell beads, may prove an exception. East of that point there is no doubt whatever. The early inhabitants of Central New York, therefore, could not obtain these marine shells themselves, and had not strength or wealth to get them from others.

It was different with the rich and powerful Hurons of Canada though more remote from the sea. Their ossuaries are not

prehistoric indeed, but in them are found marine shells and large beads and ornaments. Their intercourse with the tribes of the Mississippi Valley would naturally afford them these, and we would expect them on Erie and Neutral sites for similar reasons, though I am not aware that they have been found. So we might look for these large beads among the first Cayugas and Senecas, as being derived from the Eries. I have examined some found by Cayuga lake with great interest, though their age is uncertain. They reach five inches in length, and occurred in the lowest layer of five successive burials, apparently old, but close to a large recent site. They might represent an early Cayuga burial, or one of the first ossuaries of their Huron captives, which is probable, as the same form is found on more recent sites.

That the Five Nations were derived from different branches of the same family, appears from their varying traditions, customs, languages and clans. That some did not enter New York until the latter half of the 16th century is evident from their sites, the Mohawk traditions, and actual history. That the League was formed later is a matter of course.

Two prominent facts in aboriginal relics in the early territory of the Five Nations are the utter absence of grooved stone axes, and of shell beads of any kind at an early day. The chisel-like celt is sometimes roughened for a handle, but the deep groove rarely occurs. In Onondaga county there is a great variation in many sites and relics, but shell beads and ornaments are unknown until we come far into the 17th century. There are lines of distinction, from which we infer a varied occupation, but had any of these people dwelt long and prosperously there they would doubtless have had marine ornaments at an early day. Had they come from the east or south it certainly would have been so.

That they were from different branches of the same family is evident in many ways. Their dialects vary greatly. It is all Indian to us, but even now the different nations sometimes fail to understand each other, and we can name no time when their languages were the same. Their traditions do not point to the same national origin, except in a general way. The Senecas were always thought to be akin to the Eries, and their legends are of a western origin. On the other hand, the Mohawk story has constantly been that they left the St. Lawrence because of the enmity of the Adirondacks. It is generally thought that the Oneidas were a branch of the Mohawks, and this seems probable from their language and their three clans; the three western nations having from eight to ten. The word *Canada* is prominent in the Mohawk vocabulary and territory, as it must have been when they lived on the St. Lawrence in 1535.

Some facts favor an earlier derivation of the Onondagas from the east end of Lake Ontario, but it is difficult to locate them in the hill country, whence they had their name and device, much before A. D. 1600. Bone pits occur in Jefferson county, but otherwise we find slight traces of the feast of the dead until we reach

the Senecas and Cayugas. They become more distinct among the Eries and Neutrals further west, with whom the Senecas were long in alliance.

All the Five Nations came into their New York territory at a comparatively recent day, at least as nations. If the Senecas were derived from the Eries, in one sense they had dwelt in the State as long as these; but when we examine their territory proper, remembering their device and the meaning of their true name, we can give them little more national antiquity than the Mohawks. Their early territory is definitely known; so are most of its Indian sites, and while those of the Eries from the Genesee river west are many in number, we can point to very few prehistoric towns in the old Seneca country. A few are found where the Cayugas lived, but very many more in the Onondaga possessions. Groups of earth-works and stockades occur there, as well as village sites on the rivers and lakes. The many forts in Jefferson county, near the east end of Lake Ontario, suggest a point whence the Onondagas may have come, but as people of the Hill they are recent. The few prehistoric hill sites have little to connect them with the earlier ones of the lowland, though a connection need not be denied; but the general evidence would favor the opinion that they entered their New York territory, as a body, about the same time as the Mohawks and affected by the same causes, seeking the hills as a securer refuge from the Adirondacks, or their allies the Hurons, and not dwelling by the navigable waters as earlier settlers had done. That they were affected by fear in the choice of their homes, is evident from the long distances they dwelt from their fishing places.

There are many sites in Onondaga county earlier than those of the hills, but some of these may have been homes of the Andastes, or Tuscaroras, where they tarried a while on their journey south. They may have been occupied by others, even by small tribes at once absorbed by the Onondagas, as some earthen-ware seems to show.

It is much the same with the Oneidas. Schoolcraft tells us that they dwelt at Oneida Castle long before Hudson ascended the great river, unaware that the village was founded but about 130 years ago. The name and device of the people of the Stone age give us a hint, and the village site near the old Oneida Stone may well have been their earliest home as a nation. Again, however, we find so few prehistoric sites that no great antiquity can be assigned them. If the Oneidas were a branch of the Mohawks, as is generally supposed, their origin was quite recent, though they might have led the way; if they sprang from the Onondagas, as one tradition affirms, they might prove of earlier derivation. A mixed origin is probable.

In the case of the Mohawks the testimony is more positive. Mr. S. L. Frey writes me that he has examined with care the sites of many villages and other spots once occupied by them, and is satisfied that no people preceded the Mohawks.

river. Once only had he found other indications, though he had carefully looked for them. His conclusion is that only the Mohawks dwelt there, and that they came from the north with their early arts in perfection, but with a very small outside trade. In many years' research he had found but two prehistoric sites, and on these the pottery was the same as in recent graves in every way. From these two sites he had gathered thousands of articles, but "only one piece of a sea-shell, partly drilled, one shell bead, and one copper tube; no Catlinite whatever from these places. Very little commerce did these fellows have."

The relics found assist us partially, and yet but slightly, in tracing the early movements of the Five Nations. In the Onondaga territory the prehistoric sites are mainly in the lowlands; the recent, more in the hills. Bird amulets, banner stones, tubes, soapstone vessels, and native copper implements do not occur on the hill sites; and while the earth-works and stockades of the lowlands are circular, those of the highlands are angular. Some of the earthenware in the latter seems unique, as in the jars with human heads and figures at the angles, but this style seems to belong to the early part of the 17th century. Some of the pipes as well as the earthworks, suggest a connection with the early sites of Jefferson county, whence I think the Onondagas came. That they were derived from the villages on the rivers is less probable, though some of the earthenware is the same. There is a general likeness pointing to one family, but I can hardly doubt that three or four different nations have occupied Onondaga county. Lines of small earthworks and stockades favor this conclusion.

Whether one of these may have been the Shawnees is uncertain, though I doubt it. Charlevoix records the coming of the Iroquois to New York, in his letters of 1720, and their first wars against other nations, without giving the names of these. Colden and others, at a late day, speak of the Shawnees as thus dispossessed, and partially adopted. There seems no further evidence on this point, and the remaining sites hardly support it. If it proves true, it would give a more definite and recent date for the advent of the Onondagas from the north. It is quite possible that their first advance was along the Oswego river, as they relate about A. D. 1500, but that the final movement and consolidation was nearly a century later.

Saying nothing of unenclosed sites and mere fishing villages, there is a curious progression in the two series of earthworks in northern and western Onondaga, suggesting growth in some way, and then an overthrow or absolute departure. One series of circular earthworks commences with a very small fort at Oswego Falls, succeeded by another a few miles south, of less than an acre, and occupied but a few weeks. A third of the same size, two miles further, had a longer occupation, then one of nearly three acres, in a more central position as regards water, ended the series abruptly. It is much the same with the Elbridge forts. Two small earthworks lay east of the village, succeeded by one over an

acre to the west. Another of $2\frac{1}{2}$ acres carries the series further westward, and this line of elliptical works ends with the moderately large fort on Fort Hill in Auburn. The inhabitants suddenly vanished.

It is easy to say, as some have done, that these were forts made by the Five Nations, while warring with each other before their union, but they built forts when they became confederate, as our hills and ravines show, yet these were neither ellipses or circles, but generally angular. The first builders may have emigrated or been conquered; they may have been Tuscaroras or Andastes moving southward; or some unknown nation destroyed by invaders early or late, but there are many objections to calling them the Five Nations. Yet they did not apparently remain long, and a hundred years might cover either series. However this may be the latter part of the 16th century is a marked period in the character of the New York Iroquois territory.

In the Mohawk valley the case is very clear. The Mohawks lived in three towns when first known, and with but two prehistoric sites for the whole nation it is impossible to carry their occupation far back into the 16th century, and with this tradition agrees.

Until recently I have had less knowledge of the Cayuga sites, except the earthworks belonging to an Onondaga group. Their name throws no light upon their history, except to locate them in their known habitations near Cayuga lake and their remains indicate a recent origin.

If the Senecas, the People of the Mountain, had their proper name from Bare Hill on the east shore of Canandagua lake, as their tradition relates, there is nearly the same result as to age; but in any case prehistoric towns were few in their territory, while the later settlements were many. Tradition gives them but one fort at the first, though history indicates an early division, continued into later times. In the middle of the 17th century their principal villages were four; one being occupied by captive colonists. But it is reasonable to connect them somewhat closely with the neighboring Eries in the early part of that century, and there are fair grounds for classing them both with the Massawomekes, mentioned by Capt. John Smith and others. Their customs, houses, clans, languages and traditions were so different from the eastern nations of the League, that it seems proper to turn to the west, and derive them from the Eries, from whom Champlain may not have clearly distinguished them.

If the Antouhonorons were the Senecas, as may have been too hastily understood, then Champlain's map of 1632 and its notes are important. They are placed on the south shore of Lake Ontario, but while the Neutrals are located and mentioned, the Eries are not. By the Antouhonorons he may have meant the Eries alone, or may have included the Senecas with them, as the English thought by some to have done with the Massawomekes. **T** is that "The Antouhonorons are 15 villages, built

positions, enemies of all others except the Neutral nation. The Iroquois and the Antouhonorons make war together against all the other nations, except the Neutral nation." The villages are thus too many for the Senecas alone, and they were confederate with, but distinct from the Iroquois, which would apply to the Eries. From what he could gather among them, more than a century since, the Rev. Mr. Kirkland understood that the Senecas were last to join the Iroquois League.

Traditions vary, and can only be trusted when there is other evidence. Out of these there are three that seem worthy of mention; none of them true of the Five Nations as a body but all possibly so of a part. One relates that they came from the west, parallel with but to the north of the Delawares, settling in their respective homes as they proceeded; and this may apply to the whole family, or refer only to the later movements of the Cayugas, and Senecas. Another asserts that the Onondagas originated at Oswego Falls; or, more broadly, that all the Iroquois came into New York along that river settling in villages by the Seneca. Some early nation, evidently of this family, did proceed by successive stages along Oswego and Seneca rivers, and a portion may have been Onondagas.

The Mohawk tradition was told almost at once to the French and Dutch, and assumes historical distinctness. The Mohawks resided on the St. Lawrence with the Adirondacks, who were hunters and warriors; the others cultivating the soil, and exchanging grain for game. Six of each went on a hunting party; the one part to dress and bring home the game which the others expected to kill. The hunters got no game, and the Mohawks wished to see what they could do. Despised as they were they fared well, and the contempt of the Adirondacks turned into hatred. They treacherously slew their six companions, and refused redress when this was discovered. The Mohawks left the country, established themselves in New York, learned the art of war, and thence carried on a relentless contest against their Canadian foes. This war was in progress when the French began to settle Canada in 1608, but Charlevoix thought it had not continued long.

Knowing that the Mohawks were living peaceably on the St. Lawrence in 1535 and as late as 1542, we have a date and an historical fact on which we can safely build. It becomes of further importance when we try to find a reasonable time for the formation of the Iroquois League. In determining approximately that period we have several data. It could not have been long before the coming of Europeans to New York, if at all, because there are few prehistoric sites which could have been occupied. The names and devices of the nations point in the same direction, as has been shown. The Mohawks could not have had their device of the flint and steel before they had seen white men. The Oneidas apparently dwelt by some conspicuous stone when they took their name and totem. Leaving that stone we come upon historic sites at once. The Onondagas were highlanders when their device was

a cabin on a hill, but the earliest possible hill site we can assign them may barely prove 300 years old.

The early Mohawk tradition places the formation of the League a man's lifetime before the coming of the whites, but they dwelt on the St. Lawrence in 1535 apparently unmolested. Allowing for the Adirondack invasion, a suitable interval and their own removal, perhaps by 1550, more likely some years later, they entered the Mohawk valley. That they dwelt there as strangers and in fear, appears from their first secluded and fortified villages on tributaries to the Mohawk. Some years would elapse before the League was formed. The common statement takes 70 years, as a man's lifetime, from 1609, the year in which Champlain entered the lake, and Hudson the river, which bear their names. This gives 1539, a date far too early for the facts of the case, for they were still in Canada when the French abandoned their trading post in 1542. If we call a lifetime a generation of 30 years, it would bring us to 1579, a much more probable date. But it seems better to reckon from the settlement of the Dutch, than from the explorations of two men, neither of whom reached their New York homes. We would then have a later day.

There are other good reasons for this. There is no hint whatever that the Mohawks had allies when the French went against them in 1609, or that the Onondagas could hope for aid when Champlain made his invasion in 1615. For a long time the Dutch distinguished the Iroquois simply as the Maquaes and Senecas, saying nothing of a confederacy. Yet if, as seems certain, the League was at first a loose alliance, merely for preventing national quarrels, it may well have been formed as early as 1580. As late as 1650 it seemed to have been little more than this. It was even later that the Mohawks asked the Dutch to protect their women and children, if the Senecas attacked their castles, which strengthens Kirkland's statement.

If we place any dependance on the formation of a more formal and closer League, at a traditional spot on the shores of Onondaga lake, we must bring this down to the 17th century. The Onondagas, as a nation, do not seem to have entered the country which now bears their name until that time, and a council at the lake before this seems hardly probable.

The legend of Hiawatha gives no clear light upon this. Some names and incidents link it with the true history of the League, but among the Onondagas it has long been an Indian adaptation of the life of Christ. If we take other traditions of events *before* the alliance, they are seen to be modern. The Flying Fiery Heads may have been rockets, bombs, or anything else. The Great Quis-quis, or Hog, must have had its name after the Whites came. The Stonish Giants, whom arrows could not harm, are men in iron armor; and we can judge how modern are many myths by things like these.

Two criticisms have been made upon my views. One the development of language requires a long residence

quois in New York and the other is that Indian traditions demand an earlier date. In the face of archæological evidence I do not think either of these objections serious, but thank my kindly critics for the courtesy shown by them, and for the opportunity they have given me of strengthening my position.

It does not seem to me that where a language is descriptive, like that of the Iroquois, it does take long to differentiate dialects. A man describes an animal or plant by some characteristic, and it is recognized by another by this, although he may give it another name. One calls a certain woodpecker a High-hole, while another terms it a Golden-wing. The difference is not that of language as much as description, and yet all naturalists know how rapidly such nomenclature develops among a people of few words.

To save time, however, the objection may be granted. But while there are insuperable difficulties in giving the Mohawks, for instance, an early residence in their valley, there are none in the way of this differentiation of language while they dwelt in Canada. It is not only granted, but believed that they came from the St. Lawrence with essentially the same dialect, clans and customs that they had when the Dutch first met them. We think the same of the Onondagas. Either Jefferson county was long occupied, or else was very populous in prehistoric times. In many ways the former is reasonable, and the philologist can take all the time he chooses there. The Oneidas may have been a reflex wave of the Andastes, whom the Senecas would have destroyed, but when the Mohawks wished to preserve as near of kin. The Senecas and Cayugas may easily have preserved to us the otherwise extinct Erie and Neutral languages. One thing seems certain: They did not develop their early dialects in the New York Iroquois territory.

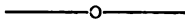
The traditions of time are uncertain in their testimony, and the best we can do is to prefer the early to the later. It is said that the Senecas now claim that the League was formed several generations before the whites came, and this need not be questioned. When Schoolcraft took his census, one band of that nation placed it about 1605. The Onondagas told Ephraim Webster, a century ago, that this occurred about a man's lifetime before the whites came. The missionary Pyrlans was told the same thing by the Mohawks in 1742, and other writers say much the same. It is the early testimony opposed to later enlargements. I have, however taken the ground that the Indians have forgotten too much to be reliable witnesses on points of history where time is concerned. Morgan says their tradition was that the Oneidas and Onondagas were at first one nation, but the one settled at Oneida Castle, and the other in the Onondaga Valley and thus became two. As a matter of fact the first of these places was occupied after 1750, and the latter after 1700. The trusted historian of the Onondagas, Ondiaga, told La Fort in the early part of this century, that the Indians built the forts at Jamesville and in Pompey before the League was made; but the first of these was burned in 1696, and

but one of the latter can be called prehistoric. La Fort himself assured Schoolcraft that their oldest men knew nothing of Zeisberger's sojourn among them about 1750, although his residence was by public permission, and he was made keeper of the wampum. Indeed the traditions regarding the remaining wampum are utterly at fault, new meanings have been given to the belts, and my recent close inspection proves the modern character of the material. Many such instances could be cited of the forgetfulness of an unlettered people.

As the Seneca traditions now claim a higher antiquity than the Mohawks formerly did, we are reminded of what President Kirkland said long ago, in regard to that nation. Their stories were open to suspicion when they magnified themselves, and as to that of their origin at Bare Hill, he thought it was made up through "national vanity, for which the Senecas are pre-eminently distinguished."

The strong points regarding the recent origin of the Five Nations as such, thus come from their earliest statements, from history, and from a close examination of their early territory. Other things could be produced, but these are satisfactory to some living amid their early homes, and who have yielded first impressions only to actual proof. They would have preferred believing in a higher antiquity for the Iroquois League, but seem to have no choice.

REV. W. M. BEAUCHAMP.



THE DHEGIHA LANGUAGE. II.

Ictinike (pronounced Ish-tè-ne-kay) was the son of the Sun-god, according to the Iowa tradition. He was expelled from the upper world for gazing on his father, when the latter was nude. He found himself in a canoe, which floated o'er the waters that had submerged this world. Ictinike, aided by the muskrat and a bird, caused the new earth to appear, and made all the animals. He was the great deceiver, who taught the Indians all their bad deeds, including certain war customs. He was the rival of the Rabbit.

ICTINIKE MYTHS.

1. *Ictinike, the turkeys, turtle, and elk.*—Ictinike deceived the turkeys, causing them to dance around him with closed eyes while he sang this song:

"Beware! he who has seen.

"Eyes (shall be) red! Eyes (shall be) red!

"Spread your tails! Spread your tails!"

He seized the largest ones and wrung their heads off, put birds in his sack. But some of the birds suspecting

peeped and gave the alarm, and many escaped. Those who peeped had red eyes after so doing. Ictinike thought that he would have a feast, but after he put the turkeys by the fire, his arm was caught between two branches of a tree, and he was not released until the wolves had devoured all the turkeys! Subsequently he killed a turtle, which he covered with hot ashes. While Ictinike slept, the Coyote crept up, found the turtle, which he ate. Then he greased Ictinike on the mouth, hands and stomach, and stuck the legs back in the ashes. Once more Ictinike was deceived for on awaking, he thought he had eaten the turtle, till he pulled out the legs. Next, he met some elk, whom he persuaded to change him into an elk. He led them into an ambuscade, where all were killed but three. Then Ictinike resumed his proper shape. Two other versions of this myth are given, one being entitled (2.) *Ictinike and the elk*.

3. *Ictinike and the buzzard*.—This myth tells of a trick which Hega, the Buzzard played on Ictinike. The latter called on the other for aid, and by his magic art changed himself into an elk, which Hega thought was dead. Hega ventured too far, and was caught by Ictinike, who stripped off the feathers from the head and neck of his foe. "Therefore the buzzard has no feathers on his head, which is very red."

4. *Ictinike, the brothers, and sister*.—This myth shows how the animals received their names from the four brothers, who were good marksmen. The sister knew how to call all the animals, and she was tempted by Ictinike to use her art for his benefit. A large elk carried her between his horns to the under-world, where she was finally discovered by the fourth brother, who cleft a mountain in two after his brothers had failed.

5. *Ictinike and the deserted children*.—A tyrant grizzly bear made the people abandon all their children. The story relates the adventures of the children, till they kill the tyrant by the aid of Ictinike. This was the only occasion (besides the re-creation of lands on which Ictinike did a good act! The original contains 151 lines.

6. *Ictinike, the coyote and the colt*.—The coyote pretended that a sleeping colt was dead, and tied Ictinike's hands to the colt's hind legs. The coyote stood at the colt's head, and told Ictinike to pull. The colt awoke, and rising kicked Ictinike loose handling him roughly, to the amusement of the coyote. Ictinike had his revenge at night, when he persuaded the coyote to stick his tail through a hole in the ice in order to catch fish. It is shown how the coyote obtained another tail.

COYOTE MYTHS.

7. *The puma and the coyote*.—The coyote wished to marry a chief's daughter, and prevailed on the puma to act as his horse. See the myth for other particulars.

8. *The coyote and the buffaloes*.—The coyote wished to become a buffalo. His prayer was granted; but he was unfortunate, and

became a coyote again. On his second application to the buffaloes, he was gored and tossed into the air, and as he came down he was killed.

J. OWEN DORSEY.

Bureau of Ethnology, P. O. Box 591, Washington, D. C.

(*To be continued.*)

The Museum.

DEVOTED TO THE INTERESTS OF COLLECTORS.

EDITED BY EDWIN A. BARBER.

PTOLEMAIC TETRADRACHMS.

Ed. American Antiquarian:

Visiting the Boston Art Museum, last July, my attention was drawn to a case in the midst of a hall, and inscribed "Gift of the Egyptian Exploration Fund; Finds at Naucratis in 1884." After a glance at sundry scarabs, mummy clothes, etc., my eye was caught by a series of ancient coins, mostly copper,—but some of them silver. One of these last, marked No. 95, I saw to be in its obverse an exact duplicate of the Ptolemaic tetradrachm I was wearing as a charm on my watch-guard. Surprised at this discovery I sought out the keeper who was even more surprised than I was myself at the coincidence. "Your piece," said she "is in better preservation than ours, and besides ours has just had its date determined, and was placed in its present position only two days ago." The lady custodian was as eager as I to learn how far the antiques tallied on the reverse sides, and so her key was soon forthcoming. The Boston piece, when taken out and laid sided by side with mine, proved to be on its reverse identical with it in every thing save three or four letters indicative of date. Both the coins showed an eagle perched upon a thunderbolt. Both showed a shield on our right as we looked at the eagle, though the Boston shield was less distinct than mine. Both on our left showed the name ΠΤΟΛΕΜΑΙΟΥ and between it and the eagle the same mint-mark, Π Τ, denoting Ptolemais, now Acre, a town on the western coast of Palestine—where Ptolemy Soter, regnant 323–283 B. C.—built a town, called it by his name, and established a mint. No Ptolemaic coins of a later date than 198 B. C. bear this mint-mark, for in that year Ptolemais was dissevered from the Ptolemaic dominions.

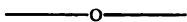
Boston numismatists hold their tetradrachm to date from about 240 to 250 B. C. The letters Κ Ε on mine stand as I suppose for the 25th year of Ptolemy, that is 298 B. C., if the coin was minted under Ptolemy Soter.

My Ptolemaic relic I obtained in Jerusalem in 1868 from

of my banker there, Berghem. This young man had been down to Mount Sinai taking photographs of the scenery in that region which has always been beyond the beat of travelers. While there an Arab boy brought the tetradrachm to Berghem's tent saying he had picked it up in the sand. As men of agnostical turn never look at my charm without blurting out skeptical doubts as to the genuineness of the coinage, I am glad that I have one fact ready, which always reduces them to shame and silence, namely, that Berghem bought the coin for one franc while it is now worth more than three for old silver.

Seeing these two issues of the same mint, one that must have lain a millennium or two in Nile mud—and the other perhaps as long in Sinaïtic sand, both sharing in an analogous resurrection, crossing the ocean and meeting in my hand, I needed no further witness that truth is stranger than fiction.

J. D. BUTLER.



MOUNDS ON THE RED RIVER OF THE NORTH.

Editor American Antiquarian:

In the March number of the *ANTIQUARIAN* I read with much interest Mr. C. N. Bell's letter on the mound system of Manitoba. Recently this subject has attracted considerable attention through Canadian papers and societies, and more or less explorations are being made by private individuals who are interested in this line.

It will seem that there is a growing impression that "an immense number of mounds exists in northern Minnesota and Manitoba, north of the valley of the Mississippi," and that there is a well defined link connecting them with the mound system of the valley proper.

North of a line drawn from Duluth to Grand Forks, and thence west, the mounds are exceedingly scarce. There are but few mounds north of Winnipeg along the Red River, six being the largest number at any one point. There are also a few isolated mounds reported as existing in various directions from these. In one section where several were reported, by investigation only two proved to be of artificial origin. One of these is known as Calf Mountain, which has been written up as being an "effigy." There is no doubt of its being artificial, but it does not belong to the effigy class of mounds. It is 95 feet in diameter and 15 feet high, and has an approach or graded roadway running south-west from it 154 feet with a height of two feet. The great Missouri trail crosses this roadway near the mound.

Alexander Henry, the trader, returning by the way of the Hair Hills, (now Pembina Mountain) with his party from the visit to the Mandans and other tribes of the upper Missouri river in the year 1806, thus graphically describes this locality—the *Tête de Beuf* of that time: "This spot of land appears to me to be the

height of land upon this mountain" * * * * "From this elevated station the prospect is extensive in every direction, excepting on the north side where the strong wood is near at hand. In the other direction the land appears to fall upon all sides for a considerable distance. At this spot there is a small lake about half a mile in circumference, at the south end of which stands a small round hillock in the shape of a bee-hive. On the top of this the Assiniboines and Crees are very particular to make sacrifices of tobacco and other trifles, and collecting also a certain number of bull's heads which they daub over with red earth, and are deposited on the summit, the nose always pointing to the east."

The British explorer Capt. Palliser, in 1857, spoke of the same place thus: "We rested for dinner at the edge of a small lake. *** A very curious hill rises in the neighborhood, which is known as the "Beef Lodge." A fine view of the surrounding country may be obtained from its summit, which rises to the altitude of fifty feet above the adjacent plains. ***** the summit of Pembina Hill." The Canadian explorers, Hind and Dawson, in 1858 also took particular notice of it. They wrote: "Within a few yards of the track, there is a conical hill about two hundred feet high called the "Calf's Tent;" rather a remarkable looking object, rising as it does so abruptly from out the level plain and alone;" and again, "Halted at noon beside a clump of oak separated by a lakelet from a high conical knoll called the 'Calf's Tent.'"

There are only a few mounds along Red river from the international boundary line southward. So far I have surveyed mounds at the following points: At Pembina and twelve miles south in Dakota; in Minnesota at the mouth of Red Lake River, each side of the river at Abercrombie, one opposite the mouth of the Otter Tail, in Wahpeton, and one near the foot of Lake Travers on the Minnesota side. South of the latter along Travers and Big Stone lakes the mounds are more numerous. From the foot of Lake Travers to the foot of Winnipeg lake the mounds surveyed together with those reported do not exceed 25 or 30 in number. The longest space between any two groups is from Fort Pembina to the mounds in St. Andrew's Parish north of Winnipeg, a distance of fully 80 miles in an air line. From the general character of the country between these points there is but little possibility of finding any additional mounds. As to relics along the river in Minnesota and Dakota, besides the more common things, several copper spear heads have been found in plowing, and three taken from mounds. A fine copper spear, nine inches long, was taken from a mound near Fort Pembina. There are, however, other avenues by which it is possible not only to make a connection with the St. Andrew's mounds but also with the well known mounds of Rainy river. Along the eastern side of "Lake Agassiz" the margin is higher than the (Red River) valley, in some places becoming hilly. At intervals along the margin there are a few be-coming mounds. A thorough exploration will probably the number and connect one or both of the above groups

mounds in central Minnesota. The Rainy river mounds would seem at a glance to be even more isolated than those of St. Andrew's Parish, but the fact is that it is only about 60 miles from the group at the narrows of Red lake to the nearest group on Rainy river.

In Dakota along the western side of Lake Agassiz it would seem from present information that the mounds are somewhat more numerous than on the eastern side. There are a few mounds around Devil's Lake and also at Stump Lake, and many more scattered through the valley of the Cheyenne river below them.

Along the James river valley there is quite a mound system. At one or two points copper ornaments have been exhumed from the mounds. Along the Missouri river north of Pierre there are but few mounds. The so-called Mandan mounds are very numerous as are also the ruined dirt houses of the house building Indians—Mandans, Gros Ventres, and Arickarees. These "mounds" are simply rubbish heaps and nothing more. They consist of ashes, dirt, broken pottery, quantities of animal bones, and various implements of bone and stone, mostly broken. It would seem that the debris was collected up within and around the houses and thrown into a heap merely as a matter of convenience. The ruined houses of this region are, by some of the knowing ones, called house mounds. There is no such thing as a house mound and there never was. The summer lodges or houses were built wholly above ground, with a layer of clay 2 or 3 feet high placed around the outside for protection. When decayed and fallen in, the ruins consist of a simple earth circle with one or more openings. The winter houses were constructed with more care. First an excavation from 3 to 5 feet was made. Above this excavation the superstructure was erected, which was composed of timber and poles and covered with small willows and grass; then, excepting the entrance and a place for the escape of smoke, the whole was covered with clay of from 6 inches at the top to 3 feet in thickness at the bottom. These houses were not only for a protection against an enemy but also for shelter against the inclemency of the weather. When in ruins they not only leave a distinct circle above the level ground but also an excavation from 2 to 4 feet below the level. It is not uncommon to find both styles of houses on the same village site.

If we admit that the said knowing ones who insist on *house mounds* are correct in their theories, how long would it take for these ruined houses to become even flat-topped mounds? Granting the possibility of decaying vegetation and the small amount of accumulating dust being able to fill these cavities and level off the top, the length of time required for that process would be so great, that instead of attributing them to the modern Indian, we would be compelled to search among the Pre-Adamites to ascertain who built them.

T. H. LEWIS.

Perham, Otter Tail Co., Minn., Sept. 11, 1886.

ROMAN COINS FOUND IN OSHKOSH.

Ed. American Antiquarian:

In 1883, A. M. Brainerd of Oshkosh, digging in his garden there, turned up a strange coin. He sent it to me. It was indubitably an issue from the mint of the Emperor Hadrian, in the second century. A copper tool and certain stone implements found in the same locality betokened an Indian or pre-historic grave. It seemed to me unlikely that any man in recent times would have passed that spot with any Hadrianic coin in his pocket. Accordingly I looked on this find as proving pre-historic intercommunication between Wisconsin and Italy. I have now more faith than ever in my conjecture for several reasons. Thus I read in Gibbon that "in the sixth century of our era caravans traversed the whole longitude of Asia in two hundred and forty-three days from the Chinese ocean to the sea-coast of Syria." Proofs are not wanting of such intercourse many centuries earlier. In the present year Roman coins of the times of Tiberius (cotemporary with Christ) and Aurelian in considerable quantities have been discovered in an inland province of China. When Hadrian's money had reached China it was already two-thirds of the distance to Wisconsin.

What was easier than for some bits of it to cross the streak of silver sea which separates Asia and America? The passage of coins from Alaska to Oshkosh would have been as natural as that of the obsidian arrows which are picked up on the shore of Lake Winnebago—for obsidian cannot be detected *in situ* nearer than the Pacific slope,—or at least the Yellowstone National Park—which according to aboriginal ideas was still harder of access.

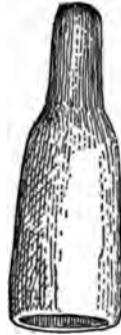
My view that the Oshkosh medal came from the west rather than from the east, is confirmed by evidence that has just come to light. At the last Boston meeting of the American Antiquarian Society, several tools and ornaments brought from Costa Rica, and made of *jadeite* or chloromelanite, were exhibited. The raw material of these specimens up to this time has never been found *in situ* in America, nor in any other continent except Asia. The articles, chemically tested in the laboratory of Harvard College by the Professor there, were pronounced by him "unquestionably Chinese jade." Oshkosh is not so far as Costa Rica is from Behrings Straits. I am glad of jade coming to thicken other proofs which did demonstrate thinly that it was not Satan alone who of old went to and fro in the earth and walked up and down in it.

J. D. BUTLER, LL. D.

PIPES AMONG THE PUEBLOS.

It has not yet been determined whether the ancient Pueblo tribes of southern Utah and Colorado used the pipe in smoking. Amongst the abundance of pottery and other objects which have been found throughout that section, tobacco-pipes have been conspicuous by their absence. If they were used at all they were, general

invariably, made of some perishable material, such as wood, all traces of which have long since disappeared. The only object which has thus far been found associated with undoubted ancient remains, which in any way resembles a tobacco-pipe, is the one here figured. This was found by a member of the U. S. Geol. and Geog. Survey, in the south-western corner of Colorado, in the year 1875. It is a tube, open at both ends, and closely resembles pipes made by some of the modern tribes now living on the borders of the Colorado and Gila rivers, and, in miniature, the stone tubes found in graves in California and which are known to have been used in the enjoyment of the narcotic weed by the ancient inhabitants of the Pacific Coast. If not a pipe it is difficult to conjecture what the object could have been designed for. Amongst the same ruins was found, by the same person, and almost in the same spot, a portion of another object which, to the average observer, would suggest the idea of a cigar-holder. It is a portion of a stone tube, apparently alabaster, but thicker and heavier than such implements used now by the civilized smoker. Those who have examined it have pronounced it, however, a veritable cigar tube, and it has been surmised that it was dropped by an explorer when passing through that section years ago. The orifice is tapering—narrow at the end and rapidly widening toward the broken part. The drilling is smooth and shows no signs of having been done by aboriginal methods; yet it has been pronounced by one archæologist of experience to be a portion of an old Indian pipe. The specimen is now in the possession of the editor of this Department who will take pleasure in exhibiting it to any one who can throw any light upon its origin.



THE NICARAGUA FOOT-PRINTS AGAIN.

The New York *Herald* says that "a block of stone 24 inches square arrived in this city and is now in the office of Mr. H. H. Leavitt, late U. S. Consul to Managua, Nicaragua, containing the impression of a human foot. The block "was taken from the bottom of a stone quarry which, for a space of 200 ft. long and 70 ft. wide, bore traces of the *countless!** feet of adults and children. No particular direction of motion was indicated by the imprints as the toes pointed in many ways, which would not have been the case had the movement been a common one among the race of people who left their foot-prints on the sands.

Several blocks cut from the same stratum were sent to Vienna during the last year and are now in the National Museum, but the geologists and scientists were unable to arrive at any conclusion as to the period when the imprints were made, as the gentleman who sent them did not send specimens of the overlaying strata. This

*Countless! Could not Mr. Leavitt count them?—Ed,

Mr. Leavitt guarded against, and he showed specimens of every strata to the number of eleven, as well as an engineer's diagram of the quarry and exact measurements. The stone itself is a remarkable specimen. The foot is most clearly defined, the lines, curves, and toes being most distinct, having sunk into the soft material, since turned to stone some five inches.

Mr. Leavitt says that he visited the quarry with several gentlemen, and that he had the block cut. The quarry is near Lake Managua, which is forty to fifty feet below it on the dead level. Large trees at one time flourished on the surface. The whole district is of volcanic formation to a great depth, as shown by the many swells in the towns and neighborhood. As near as can be judged the strata in the quarry are level, do not vary in sequence and very little in thickness. Several strata are alike, save that the underlying ones are solidified. For instance, stratum 12, in which the foot-prints are to be found, is the same as stratum 3, ten feet above it. It is a dark gray conglomerate, very porous, no cracks or fissures, and full of pieces of hard black cinder.

No. 11, overlaying No. 12, is the same as No. 4, a dark gray indurated mud called talpitate. It is not used for any purpose. Through No. 11 are numerous horizontal veins or streaks full of impressions of leaves and twigs. Of these Mr. Leavitt has several specimens; they are similar to coal specimens, save in color. Stratum 5 is of indurated mud, light yellow color, interspersed with shale of some material and with pumice. Local name of stratum talpuga. No. 6, loose gravelly black sand, grains rounded, as though by action of water, and precisely similar to the sands on the banks of the lake."

AN INDIAN GUN-FLINT.

A gun-flint, evidently of Indian workmanship, was found during the past summer, on the surface of an old Indian shell-heap, near Tuckerton, N. J. It is supposed to have been dropped by one of the natives who lingered in that section after the white man had appeared. The chipping is entirely different from that which characterises the ordinary European gun-flints, and was evidently effected by the method of pressure, the flakes taken from the edges being numerous and small.

SHELL HEAPS IN NEW JERSEY.

Near the village of Manahawken, N. J., are numerous shell-heaps which have only partially been explored. A superficial examination of some of them recently resulted in the discovery of a few weather-beaten arrow-heads and some bones of birds. A more thorough examination of these remains would, doubtless, produce some highly satisfactory results. There is a large, untrodden field for thirty miles along this portion of the Jersey coast which is rich in aboriginal remains.

THE ANCIENT WALL IN WISCONSIN.

A discovery at Kaukauna on the Fox River has created something of a sensation through the papers. Parties were digging a sewer in the middle of the street when they came upon a wall which looked as if it was the foundation of a building. Ashes were found near the wall and the signs of fire were apparent on the stones. It was said that a large elm tree grew over the spot and a stone smoothed by glacial action was found near the wall. The editor took the pains to visit the spot. He found the tree 70 feet from the wall, and the stone smoothed by the glacier, further away than the tree. The wall was probably the foundation of some building or head-gates or locks of a canal. Old settlers stated that there was an old mill built by the government for the Stockbridges when they were located at this spot, their first home in Wisconsin. They remembered also that there was a canal which drew the water from about the same place where the present dam is, and that it ran along the foot of the hill near the very spot where the wall was found. The mill was remembered as being near the river, but the canal had been forgotten. The accumulation of 8 ft. of soil above the wall had hidden the canal from sight. The sensation is exploded, the pre-historic wall is a fraud. It shows how newspaper stories are started.

COLLECTORS AND COLLECTIONS.

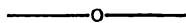
One of the finest pieces of mound pottery to be found in any collection may be seen in the Metropolitan Museum of Art, New York City. It is a large, perfect bowl with a seven-scolloped rim.

Mr. Wm. W. Adams of Mapleton, N. Y., is an indefatigable collector. On Aug. 26th last, he unearthed a wampum belt composed of 4,000 pieces. On Sept. 4th he found a deposit of 808 shell beads, making a string eighteen feet long, which were evidently from a pair of Indian leggins. His collection now numbers some 25,000 specimens.

The National Museum of Naples, Italy, is divided into seven sections. Its collections of antique figures, coins, Oriental antiques and manuscripts of the IV to the XV centuries are rich in valuable and rare specimens.

Mr. J. R. Nissley writes from Mansfield, Ohio: "Last week I procured in the N. W. part of Richland Co., O., a rough piece of sand-stone about nine inches square and three inches thick. On one side are seventeen cup-shaped holes, one-half inch deep and one and one-fourth inches in diameter, and eleven holes much smaller. On the other side are four of the large and six of the

small depressions. The holes are similar to those described by Dr. Charles Rau in his monograph in "*Contributions to Am. Eth.*," Vol. V., Fig. 10, Scotland, and Fig. 22, Sweden.



Editorial.

THE LOST MAN.—WHERE WAS HE LOST?

In the early days of Western exploration there was a Jesuit Missionary, Father Menard, who became lost in the wilderness of Wisconsin. It has remained a question where about he was lost and at what spot he died. He had been a missionary among the Hurons near the Georgian Bay but had followed the Ottawas to the north shore of Lake Superior. He spent the winter near Keweenaw Point. He suffered much from ill treatment but may be said to have established the first mission on Lake Superior. The mission, though suspended for a time is now continued under the Dominican Fathers. The date of its establishment was Oct. 15, 1660. The exact spot of the first mission has been identified. Father Menard, during the following year undertook to reach a village of the Hurons but lost his way and perished in the attempt. The question is, where was this village and in what direction did Menard's journey lead him. Historians are divided on this. Nichols Perrot, the French explorer, located the village on the Black River but represents Menard as following the fugitive "Outaowas" to the "Lake of the Illinoets" (Illinois—Lake Michigan) and in their flight on the Louisianne (Mississippi) as far as above Black River. The "Outaouas" were the tribe among whom Menard spent the winter on Lake Superior. The *Hurons* were the people whom he was seeking.

According to the Jesuit Relations, Father Menard sent three young Frenchmen to find out the location of the village of the *Hurons* and to inform them that he would go and instruct them as soon as they should send some guides to conduct him to their place. "The three Frenchmen, after many hardships, arrived at the village and found the people in their wigwams, nearly starved, they were but living skeletons, so feeble that they could scarcely stand upon their feet." * * "Their return was a great deal better they were obliged to go *up the river* whereas they down stream when seeking for the Huron village."

their canoe, (stolen from them) and were obliged to build another which they did in one day. They embarked toward the end of May. It took them *15 days to return to the place* from which they started." Father Menard resolved to seek the village. "Some Hurons who had come to traffic with the Outaowak offered themselves to the Father to act as guides. He gave them some luggage to carry and chose one of the Frenchmen to accompany him. All the provisions he took along were a bag of dried sturgeon and a little smoked meat which he had saved for his intended journey." "He set out on his journey July 3rd, 1661, nine months after his arrival in the Outaowak country." The Hurons abandoned him, promising to send some young men to get him. "About 15 days he stopped *near a Lake* expecting help. As provisions were failing, he determined to betake himself on the way with his French companion, having a small canoe which he had found in the brush." Finally, about Aug. 10th, the poor Father, "while following his companion, went astray, mistaking some trees and rocks for others. At the *end of a portage, made in order to get by a rather difficult cataract or rapids*, his companion looked back to see whether he could see the Father coming. He seeks for him, calls him, shoots off his gun as many as five times, to bring him back in the right way but all in vain."

We here learn how Nicholas Perrot made his mistake. He gathered his narrative from Indian and French Reports. He was told that Father Menard had been abandoned by the Hurons and that he and his faithful companion had followed the route carefully noting the places where they made portages, etc. Perrot supposed the route referred to was the one taken by the Hurons in their passage from Green Bay down the Wisconsin and up the Mississippi and Black River. His account is based on this supposition.

Modern historians differ from Perrot as to the route Menard actually took. Bancroft says that "he yielded to the invitation of Hurons who had taken refuge in the isle St. Michael. He departed with one attendant, for the Bay Chegoimagon. The accounts would indicate that he took the route by way of Keweenaw Lake and Portage." This island, St. Michael is the same as Madaline island. Dr. Neill says that "on Franquelin's map of 1688 it is called Isle Detour ou St. Michel. In 1830 Fredrick Ayer came to the island, St. Michael, which is now called La Pointe, and established a school for Indian children." There is no evidences however, that Father Menard ever visited St. Michael or Madeline island. Bancroft is mistaken in tracing the route in this direction.

Thus we have two authorities, Perrot and Bancroft. One places the route in the extreme South, the other in the extreme North. Later writers have placed the route between these two extremes. Rev. Edward D. Neil and Rev. Chrysostom Verwyst, the author

of Missionary Labors of Fathers Marquette, Menard and Allouez, agree upon this point. They locate the route by which Menard went, along the head waters of the Wisconsin River, and think that the Huron Village was situated on the head waters of the Black River. Verwyst says, "we are inclined to think that Father Menard died somewhere near the mouth of the Copper River, a few miles above Merrill, between there and Medford."*

"A portion of this tribe, the Hurons, after the destruction of the mission by the Iroquois in 1649 and 50, first settled on Mackinaw Island. They then fled to the Noquet Islands at the mouth of Green Bay. Then to the Red Clay Banks about 12 miles from the city of Green Bay. A portion of them afterward went up the Fox River and down the Wisconsin and up the Mississippi to Lake Pepin. They settled on an island about 18 miles below Prescott. Here they came in contact with the Sioux and were forced to abandon their island home. They sailed up the Black River to its source and there constructed a fort. The Outaowas in the meanwhile pushed on to Chequamegon Bay and settled on the shores west of Ashland. They were joined by the Hurons whose village was at the southwestern end of the Bay. Here Father Allouez found both tribes in 1665."

Dr. Neill says "Father Menard died in the summer of 1661 toward the sources of the Black River."†

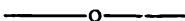
Verwyst has followed the "Jesuit Relations" closely. The account given by these Relations contain the following facts. 1. Menard starts from Keweenaw Bay with the Hurons, (probably overland) 2. He tarries at a lake 15 days. 3. He finds a canoe, passes down the river and reaches a carrying place and is lost. 4. His companion, failing to find him, starts for the village which is not far distant. He went beyond the village, but met an Indian and was led back and reached the village at the end of two days. This account agrees very well with Verwyst's supposed route; Lac Vieux Desart is remote from Keweenaw point and can be reached only by an overland route. There are rapids in the Wisconsin river and falls, Big Bull Falls for instance. There is a land route across the water shed to Black River. Still there are other rivers and routes which would answer the description as well as these. 1. "The route to the Hurons when situated on Noquet Island would be overland about 30 miles, then a tarry at Lake Mitchagami and a portage at Grand Rapids on the Menomonee River. 2. The route to well known Indian villages on the Chippewa River would involve travelling by land to Lake Flambeau; a canoe voyage down the East branch of the River. A carry around the Falls, and then a land route. There are the sites of ancient villages near Chetack, near Rice Lake and at other points. 3. A route by land and water to Lake Courter-

*Missionary Labors of Fathers Marquette, Menard and Allouez, p. 176.

†See Collections of Minn. Hist. Soc'y., Vol. V, p. 404.

eilles and a passage down the west branch of the Chippewa would involve the same experience. The reader can take his choice out of all these routes. The location of the Huron village is the point in question.

Dr. Neill says: "Upon De l'Isles map of Louisiana there appears a lake of the Ottowas and a lake of the *Old or Deserted Settlement* west of Green Bay and south of Lake Superior. The Lake of the *Old Plantation* is supposed to have been the spot occupied by the Hurons at the time when Menard attempted to visit them." We have in our possession a map resembling De l'Isles, John Mitchell's, 1755. This map places Lac Viuex Desart at the head of the Wisconsin, but the "Ottawa Lakes" at the head of the Chippewa, near Lake Flambeau. The Huron village was not at the Lake, but below the portage, so that we must reject Dr. Neill's explanation. There are three facts which may help us in locating the village. 1st. Two French traders, Groseilliers and Radisson visited the west end of Lake Superior in 1659 and wintered with the Dakotas in the Mille Lac region. They reported the Hurons as situated on the head waters of the Chippewa. Menard returned with Groseilliers. There were six traders in the company and Menard's servant Jaen Guerin. Menard must have learned the location of the village from the trader. 2nd. Allouez, in 1695, found the Hurons at the west end of Chequamegon Bay; they had fled from the Sioux to this point. If they had gone from Black River, they went back toward the Sioux, but if from the Chippewa, they went away from them. 3rd. Perrot states that a Sac Indian was found carrying Menard's kettle, and that his cossack was found with a Sioux Indian. The Sacs and the Sioux were located on the Chippewa River; the Sioux to the west and the Sacs to the east. These facts seem to prove that the village was on the Chippewa River rather than the Black River. They at least throw uncertainty on the locations fixed upon.



LITERARY NOTES.

BY THE EDITOR.

THE IDENTIFICATION OF PLACES.—The remarks upon Rev. Mr. Verwyst's and Rev. Dr. Neill's identification of the place of Menard's death suggests a subject for investigation in other localities. We know that parties are seeking to find the exact spot in New York where Father Isaac Jogues was put to death by the Iroquois. Mr. R. S. Poole has also been studying up the location of the fort in Illinois which George Rogers Clarke took from the French in Illinois, and has made the important discovery that it was on the opposite side of the river from the one generally fixed upon.

THE NAHUATL PHONETICS.—The article read by Mrs. Zelia Nuttall on the Nahuatl phonetics before the A. A. A. S., at Buffalo is published by *Science* Oct. 28th, with a cut of the Calendar Stone of Mexico. We invite comment on it in our pages, as it is important to know for a certainty whether there was a phonetic system in this country before the date of the discovery.

LEGENDS OF DEVILS LAKE.—There is a story of the lake which accounts for the origin of its Indian name, Minne—Waukan—mysterious water. It is said that there was once, many winters ago, a terrible battle fought there. The contending warriors, on either side, as they slew one another, pitched the dead down over the craggy walls into the deep water until nearly all, on both sides, had either fallen into the crevices, or were helping to fill a watery grave. The sight was so horrible that the Indians ever after avoided the place. They say that the voices of the dead could be heard, and even when they passed along their trail, on the other side of the mountains, the sounds haunted them. The water was thought to have become imbued with mysterious powers, for which reason the Indians will never drink the water, nor eat or touch the fish from the lake.

EGYPTIAN SITES.—The Monthly Expositor for Sept., 1886, has an article by Canon Rawlinson on Biblical Topography. The identity of "Pithom" "Pa Tum," "Heliopolis," with the ruins Tel el Maskoutah, is shown by it. The ruins are found on the ancient canal between the Nile and the Red Sea, the Cairo Suez canal and railway being located in the same valley. The chief remains are contained within a square enclosure about 235 yards long each way. The ancient *Temneos* of the great temple of *Tum*, one of the Egyptian Sun Gods, built by Ramases II. M. Naville found in 1883, a number of square chambers which he believed to be store chambers or graneries. It is maintained that not a brick in the wall or in the excavated chambers or in the entire mound which covers a space of 10 acres but that it was probably modeled by Israelite hands. The identity of Ancient Zoan with "Tan-is" of the Greeks, Modern "San" is also shown. This region which is now so desolate once boasted 14 graceful obelisks; a temple built with pink granite from the quarries of Syene; canals rich in fish, sea going ships. The "field of Zoan" was pleasant to live in at the time when Ramases II lived. It was on the east, or Tan-is branch of the Nile. The discovery by M. Naville brings up the different scenes through which this city passed, reminding one of the times of the exodus and the magnificence of the dynasty of the Egyptians.

OLYMPIA.—The discovery of the statues by Alkamenes in the Olympian Altis, was one of the interesting results of the exploration of European Archaeologists some five years ago. These works were said to be very clumsy and the explanation was given that the artists such as Pheidias and Alkamenes only made models and left the details of the work to stone cutters, and the stone cutters of Olympia were poor workmen. We had expected that this explanation would be laid aside but Mr. J. H. Wright in his manual of Archaeology recently published, does not correct it. He, on the other hand, repeats the old story that Pheidias was the sculptor of the statues on the east, and Alkamenes on the west pediment of the Parthenon. This is not probable if the Olympian Centaurs and Lapithi are the real works of Alkamenes.

JAPANESE SUPERSTITIONS.—The Japanese have many idols which perpetuated their superstitions. Immense figures of the "Wind Pipe," the "Thunder Cat," the Weasel, which may be called the Accident God, the tortoise the god of drowning, as well as many divinities that are more sportive. A short sketch of some of these folk tales may be found in *Overland Monthly* for September from the pen of Helen S. Thompson.

MOQUI INDIANS.—On an isolated Mesa in Arizona, which extends from Southern Utah nearly to the lines of the Atlantic and Pacific Railroad, are the

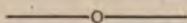
villages of the Moqui Indians. The reason for selecting such an isolated height for their home is a problem. Some say that the Moquis were originally a war-like people and built their villages on this inaccessible place in order that they might more easily withstand the attacks of their many foes.

THE SUN DANCE AMONG THE CREES.—This is sometimes called the Great Thirst Dance. The tent, 40 feet in diameter, decorated fantastically, "Medicine Pole" in the centre, orchestra of fifteen *tom-toms* at the door; two Medicine Men blowing a whistle, a circle of warriors fully dressed, in the centre: one warrior advances, narrates his exploits. Initiation of braves follows in the usual way; dancing about the pole suspended at the end of a rope with skewers run through the flesh.—*Canadian Record of Science, Vol. II. No. 1 p. 22.*

BEOTHUK INDIANS.—This is a tribe in Newfoundland; wintering place upon the Exploits River, forming a race by themselves. R. G. Latham has aduced some parallels of Beothuk with Tinge dialects but does not hold to an affinity. Not the least affinity is traceable between Beothuks and Iroquois. It more resembles the Mickmack than any other Algonquin tongue. The Mickmacks lived on the same island. There is a great discrepancy in ethnologic particulars such as canoes, dress, implements, manners, and customs, between these people and any other. They are decidedly insular in their characteristics. A. S. Gatschet, in *Proc. of Amer. Phil. Soc. p. 411.*

THE SELISH KAWIA LANGUAGES.—The Selish or flat head tribe of Indians located in North Western Montana, numbers about 150 souls. The country abounds with game. A vocabulary of the language is given.

The Kawia is spoken by a tribe on the south fork of Tule River in California. The Indians occupy log dwellings, manufacture basket ware from strands of long grass, make cavities in the boulders for mortars, pound acorns into meal. They resemble the Pah-Utes. They practice the sweat bath, have under ground sweat houses measuring 6 feet in diameter, and 4 feet high. They observe their primitive rites in secret. Vocabulary given.—*Dr. M. J. Hoffman, Ditto, p. 361-379.*



NOTES ON AMERICAN ETHNOLOGY.

BY D. G. BRINTON, M. D.

THE DERIVATION OF SUSQUEHANNA.—Several conflicting derivations of this river name have been proposed, some of which I have mentioned in *The Lenape and their Legends*, p. 14. They are doubtless all wrong, as the etymology given me by the native Delaware, the Rev. Albert S. Anthony, in a recent conversation, would seem beyond question to be the simplest and most obvious. The name as he wrote it in the English orthography is *A-theth-quah-nak*. The *th* is the peculiar sibilant of the *Lenape* compounded of the *s* and the soft *th*, and by the Moravian missionaries was always rendered by the *s*. The word means "the river with the muddy bottom," or with muddy water.

THE ANTHROPOLOGY OF GUIANA.—Dr. Ten Kate, whose researches on the native tribes of our Western Territories have already been mentioned in the *AM. ANTIQUARIAN*, has been spending the last year in Guiana and the adjoining countries. In the former he took careful measurements of 160 natives belonging to various tribes of pure or mixed blood, examined them with reference to their color sense and to the hue of their skins, etc. They did not markedly differ in height, the Warrous being as tall as the Caribs, contrary to the statements of previous travelers. The muscular power of all was inferior, a remark previously made by Mr. Im Thurn. A recent letter sent me by the last named able ethnologist states that he has recovered his health and resumed his studies and travels in British Guiana.

media, though the greater part of it remains in manuscript. I may mention the following articles as showing the scope of his researches: *Die Eskimo des Baffin-Landes*, a lecture delivered at Hamburg in 1893; *Reise in Baffin-Lande*, in the Proceedings of the Berlin Geographical Society, 1895; *Language of the Bella-Choolu Indians*, in the Proceedings of the Berlin Anthropological Society; and a paper on Arctic Exploration in the *Popular Science Monthly*. At present Dr. Boas proposes making a special study of some of the tribes in Vancouver Island, and we may look forward to excellent results from his work.

NATIVE TRIBES OF VENEZUELA.—In the *Ethnologischen Mittheilungen* of Berlin, *Heft 3*, there is an enumeration of the Indian tribes of Venezuela by Dr. J. S. Hartmann. He counts as many as ninety-nine, mostly of Carib and Chibcha lineage. Their locations and their numbers according to the most recent authorities are added so that the table is a peculiarly valuable one to the student of Columbian Ethnology. The writer adds that the amalgamation of races has taken place even more than usual in Venezuela, and that tribes of unmixed blood are to be found scarcely anywhere except in the eastern districts of the Republic.

RINCON'S NAHUATL GRAMMAR—Under the auspices of Dr. Antonio Peñafiel the government of Mexico has published the Grammar of Father Antonio del Rincon, the first edition of which appeared in 1593. The author was a half breed and claimed descent from the former rulers of Tezcucó. As at this center of ancient learning the language is said to have been spoken in its greatest purity, his work has some peculiar claims to attention. It will, however, prove rather disappointing to serious students of the tongue. As an analysis of the grammatical structure it is much inferior to the admirable work of Father Olmos, written half a century before, and which is accessible in the convenient edition edited in 1865 by M. Remi Simeon. Nevertheless, all in this line of research will be glad to see this early discussion of the principles of Nahuatl grammar rendered accessible.

NOTES FROM THE FAR EAST.

BY PROF. JOHN AVERY.

SOME RUDE TRIBES OF SOUTHERN YUNNAN AND UPPER BURMA AND SIAM.—In the last number of this Journal we described the rude population found among the mountains of Western China—chiefly in the provinces of Szu-chuan and Northern Yunnan. We will now turn our steps southward, and study a similar population, which is spread over a wide region of country, embracing Southern Yunnan and Northern Burma and Siam.

The Tai race represents the largest and most widely-dispersed population of the Indo-Chinese peninsula, and embraces, besides the Khamtis and Ahams of Assam, the Siamese, the Laos of the highlands north of Siam, and the Shans of Upper Burma and Southern Yunnan. It is of the last two divisions that we shall speak particularly.

The name Tai, which is the common designation of the whole people, is of doubtful signification. The Siamese aspirate it, Htai or Thai, and give it the meaning "free." The words Siam and Shan have been derived by some from the Sanskrit *cyāma*, "brown;" but they are probably older than the beginning of intercourse with the Sanskrit-speaking people. Professor Terrien De Lacouperie suggests a derivation from *shang* "trader," a characteristic occupation of this people.

The Tai seem to have lived in China at a remote period, and to have been true aborigines of that country, in comparison with the intrusive Chinese and certain Ural-Altaic tribes. There are hints in Chinese tradition which with much probability fix their primitive home, many centuries before the Christian era, among the Kiu-lung mountains, north of the Yan-tze-kiang river. With the growing power of the Chinese, who were settled in north-western China, the ruder population was in part absorbed by the superior race, but in greater

movements of a stronger race. They are divided into numerous clans, and a Ka-Khyen is more likely to identify himself by the name of his clan than by the general term for the people. Our best description of the Ka-Khyens is by Dr. Anderson, who accompanied the Shaden expedition to Yunnan in 1868. In physical appearance he observed two quite distinct types,—the one characterized by a short, round face, high cheek-bones, heavy, protruding lips, broad nose, low forehead and square chin, the other by a longer face, pointed chin decided obliquity of the eye, and in general greater delicacy of outline. These facts would indicate considerable intermixture, by which the primitive type has been modified in various degrees. In character they are peaceable and receive strangers with hospitality; but they lack manly courage, and when wronged, are apt to seek revenge by stealth. They fairly well cover their bodies with clothes, which their women weave on rude looms held in the lap. Their houses are constructed much like those of hill tribes generally, except that gently sloping ground rather than a steep hillside is chosen as a site. They are from 100 to 200 feet long by 30 to 40 feet broad, and are set on piles about 3 feet above the ground. In front is a deep portico, where the domestic animals are housed at night. A partition runs through the middle lengthwise; and on either side are the apartments of the inmates, who may consist of several related families.

Women among the Ka-Khyens are esteemed according to the degree in which they contribute to the support of the family. They perform not only the household duties, but also the drudgery in the fields; while their lords lounge and smoke, or go off on trading or marauding expeditions. Marriage, which is arranged by the parties most concerned, has one interesting feature, which seems a survival from the time when brides were obtained by capture. On the day before the wedding, five young men and women from the bridegroom's village come and take a house adjoining the bride's. After nightfall a girl brings her to the rendezvous, without the knowledge of her parents; and together the party set off on their return. Having reached the house of the bridegroom, the future wife is concealed in a cloth canopy, constructed for the purpose near by. In the morning some old men arrive from the bride's village, and inquire for a girl who has been missing since the night before. They are advised to search the canopy; and, having found her there, say that she appears to be well off, and had better remain. The wedding can now proceed, which consists of propitiatory offerings to the spirits, gifts from the bridegroom to the bride and her friends, and general merry-making. A widow is expected to become the wife of one of her brothers-in-law.

The authority in a Ka-Khyen village or clan is vested in a chief and certain inferior officers, called Pawmines. The dignity in both cases is hereditary. The principal duty of the Pawmines is to settle disputes among the people. The Ka-Khyen calendar is rudely computed by the recurrence of the harvests. The year begins with the ingathering of the rice in December, and extends until the next crop is ripe. Their agriculture is mostly confined to the rude cultivation of clearings in the forest, which we have often referred to, when describing other tribes; and their tool for all work is the *dāh*, or hill-knife, called *dao* in Assam. Slavery exists among them, the victims being for the most part taken from plundered Hindu villages on the eastern border of Assam.

The Ka-Khyens have never been converted to Buddhism, but their faith still remains at the animistic stage. They propitiate by offerings a variety of good and evil spirits, whom they call *nāts*, and to whom they ascribe an agency in every noteworthy event of their experience. One of these spirits they elevate to a position superior to that of his fellows, and regard him as the creator of all things. In this we discover a dim apprehension of a Supreme Being. They believe in a life after death, and in places of reward and punishment, to which men are allotted, not only according to character, but quite as much according to accidental circumstances. For example, women who die in pregnancy, and men who are killed by the *dāh* go with the wicked to the Ka-Khyen hell. There is no regular priesthood among them, but any one may exercise the priestly functions who manifest a special aptitude for them.

The Ka-Khyens bury their dead, and conduct the last rites with much ceremony, and many precautions, the grand design of which is to prevent the

arrow-head, and an axe. This mound had been explored in an inexperienced manner some twenty years ago, on which occasion its most characteristic features were much injured and in some instances utterly obliterated.

M. BONNEMERE has made a series of explorations in the prehistoric burial-places in the Lower Alps, finding among other objects, amber beads, and incinerated fragments.

BOOK REVIEWS.

History of the Ojibways.—*Collections of the Minnesota Historical Society, Vol. 5.* Published by the Society, St. Paul, Minn., in 1885.

This society has been fortunate in securing as a gift from a former U. S. Senator, Henry M. Rice, a manuscript history of the Ojibways based upon traditions and old statements, gathered by the late Wm. W. Warren, an educated and christian half-breed, who spent the most of his life in contact with these Indians, and who was exceedingly fond of their traditionary lore and well informed in their history and customs.

Mr. Warren was a descendant of Richard Warren, one of the May Flower pilgrims. His father was a trader, farmer and sub-agent to the Ojibways, on the Chippewa river. His mother was three-fourths Indian, being a descendant of the Cadotts, an old French and Indian family, long resident among the Ojibways. He was a pupil at the Indian school at La Pointe, then under the charge of Rev. Mr. Boutwell, of the A. B. C. F. M., afterwards, in 1842, attended the Oneida Institute under the charge of Rev. Uriah Green. He returned and was for a long time Indian interpreter among the Ojibways. He afterward moved to Two Cities, Minnesota, and was elected to the House of Representatives in 1851.

While a member of the House he wrote a series of articles for the *Minnesota Democrat*, and was encouraged by Col. D. A. Robertson, the editor, to write a book about the Ojibways. In the preparation of his book he was much embarrassed for the want of the works of other authors, as there were then no public libraries in Minnesota. He completed his manuscript, but found difficulty in securing a publisher. He died in 1853, but his manuscript fell into the hands of Mr. Rice, was preserved, and is now given to the public under the auspices of the Minnesota Historical Society. It embraces a history of the Ojibways, but does not dwell upon the myths, customs, traditions, religious rites or notions of this remarkable people.

Mr. Warren's intention was to prepare a series of books on these subjects. Unfortunately these are lost to the world by his early death, (he died at the early age of twenty-eight). No one was better prepared to furnish information on the myths and traditions, as he had, from a boy, been accustomed to hear them from the chiefs, and fully understood their significance. The few who are interested in the myths and customs of the native tribes, will realize how valuable such a book as this would have been. It is very difficult to get access to the natives and to draw out from them their traditionary lore. The brief and accidental interviews which public officials at Washington have with the chiefs, are certainly poor substitutes for the close intimacy and life-long familiarity with these things, which such a man as Mr. Warren had. Advantage should be taken promptly of every such case, and the men who give themselves to the study of such subjects, should be encouraged.

The book opens with a description of the "Totem System," which has always prevailed among Ojibways. It is considered as a fundamental system, traceable to the genealogical relationships, and not as a mere arbitrary system. It has however been modified the "gentes" having been divided and new totems having been taken. In a few cases the "gentes" have been absorbed and their totems have been combined with those of other gentes, very much as Rev. W. M. Beauchamp says is the case with the Iroquois tribes. There are now twenty-one badges or totems, though originally there were only five.

The name of the original gentes, or families, were in English, the Great

Fish, the Crane or (Comaker,) the Marten, the Bear, and the Wolf. The Bear family was more numerous than any, forming more than one-sixth of the entire tribe. The Wolf family was few in number, but the Crane was a large clan. There seems to be an opinion that the clans partake of the nature of the animals whose name they bear, the bear being ill-tempered, the cranes having loud voices, the loons wearing wampum around the neck resembling the white collar of the loon, and the fish family being extremely long-lived. The martin, moose, and reindeer totems, are included under the generic term of "Monsonceeg."

The name of the Ojibways means "pucker." It is supposed to be derived from the peculiar pucker of the moccasin, but the author ascribes it to another source, namely: to roast till puckered up, referring to the treatment of captives.

The origin of the Ojibways, the author traces to the lost tribes. In this he will probably not be followed, even if he says, the conviction has been forced upon him by the constant observation of the resemblance of the notions and religious conceptions of the Ojibways; and those contained in the Bible. It is remarkable that other persons besides Mr. Warren have maintained that there are among this tribe, traces of a former high state of religious thought. They refer to traditions about the "ancient" people, etc., as if these were indications of a former advanced state, and their testimony is certainly worthy of consideration.

The migrations of the Ojibways are recorded in a speech to which Mr. Warren listened, in which the figure of a sea shell symbolizes the Medawe religion. The speech was as follows:

"While our forefathers were living on the great salt waters toward the rising sun, the great Megis (sea shell) showed itself above the surface of the great water, and the rays of the sun for a long period were reflected from its glossy back. It gave warmth and light to the An-ish-in-aub-ag (red race.) All at once it sank into the deep; and for a time our ancestors' were not blessed with its light. It rose to the surface and appeared again in the great river which drains the waters of the Great Lakes, and again for a long time it gave life to our forefathers, and reflected back the rays of the sun. Again it disappeared from sight, and it rose not, till it appeared to the eyes of the An-ish-in-aub-ag on the shores of the first great lake. Again it sank from sight, and death daily visited the wigwams of our forefathers, till it showed its back, and reflected the rays of the sun once more at Bow-e-ting. (Sault Ste. Marie.) Here it remained for long time, but once more and for the last time it disappeared, and the An-ish-in-aub-ag was left in darkness and misery, till it floated and once more showed its bright back at Mo-ning-wun-a-kaun-ing (La Pointe Island), where it has ever since reflected back the rays of the sun, and blessed our ancestors with life, light and wisdom. Its rays reach the remotest village of wide-spread "Ojibways."

The wars of the Ojibways are recorded in the fifth, eighth, ninth, and twelfth chapters. These wars were carried on with Foxes, O-dug-amu-weeg. (Outagamies), who were at first situated south and west of Lake Superior on the Chippewa river. Battles were fought near La Pointe, on the spit of land which may be seen south of the point, and on the main land, near the mouth of the Montreal river, again on the head waters of the St. Croix, and Chippewa rivers, where six villages of the Foxes were destroyed, and again upon the Wisconsin river, to the head waters of which the Foxes had fled. These wars drove the Foxes to the Fox river, and to the lower part of the Wisconsin river, where they were found at the beginning of this century.

Wars were also carried on with the Dakotas. They were attacked in their villages on Spirit Lake, again upon the Rice Lakes of the St. Croix river. A great battle was fought at Point Prescott, and Point Douglass. The Dakotas of Sandy Lake were also dispossessed. Leach Lake was also evacuated, and the Ojibways became the possessors of all the region surrounding the head waters of the Mississippi.

The Ojibways were to a certain extent connected with the Pontiac Conspiracy, but they soon withdrew, and the western portion of the tribe were never affected, by that war. After the Pontiac war the Sacs and Foxes, (Osaukees), (Outagamies), joined with the Dakotas in a final struggle, but they were driven

back from the head-waters of the Mississippi, and the Foxes almost exterminated. This ends the separate existence of the Outagamies, for they were absorbed into the tribe of the Sauks and were called Sauks and Foxes.

The history of the Ojibways from this time on, is well known. The only points which need to be cleared up, are the exact dates of the appearance of the white men among them, and the exact localities where the Jesuit missions were first established. It appears from Mr. Warren's narrative, that the Ojibways first settled at La Pointe on the Madeline Islands, but owing to the prevalence of the man-eating propensities of the medicine men (anthropophagy), they fled in dismay and feared to return, but after the settlement of French traders upon the island, they did return and established permanent villages.

The question of dates is important here. Was it before the Ojibways fled from the island that the Jesuit fathers Allouez and Marquette began their mission? It is known that Allouez first built his chapel of bark between a village of Petun Hurons and a village of Ottawas on the main land at the head of the bay (Chegouamoigon). This was in 1665.

Mr. Warren does not deny this, but does not state where the Ojibways were at the time; whether on the island, on the main land, or on their former camping ground at Sault Ste. Marie. Rev. Edward Neill thinks that the mission was established before the Ojibways had reached Lake Superior. This is doubtful, for the Dakotas, or Sioux had occupied the region about Lake Superior, and it is supposed they were driven away by the Ojibways, before the Hurons found a retreat in this locality.

The Hurons had fled from the terrifying Iroquois, and had hidden themselves at the remotest end of this bay. It is possible that they chose the main land, preferring to have the Ojibways between themselves and their enemies on the island, which guarded the entrance to the bay. The mission did not long remain here, but was removed to the island. The name, La Pointe, which on Franquelin's map, 1688, was applied to the north-east projection of the main land at the entrance of the bay, was transferred to the west part of Madeline island, and the mission of the Holy Spirit was continued on this island.

The history is written from the stand-point of a native. It is strictly an aboriginal history,—just such a history as would be exceedingly desirable, if it could be furnished from all the tribes. It is a rare book. It may not be as critical and as accurate as to dates, as a professional historian would write, but it is valuable because it is written by one who understood all their history. It is exceedingly interesting as a narrative, and surprises one with the ease and clearness of its style. The book was prepared in 1852, but has just been published.

Ancient and Modern Methods of Arrow Release, by EDWARD S. MORSE. Bulletin of the Essex Institute, Oct.—Dec., 1885.

This is an interesting monograph. It illustrates the methods of arrow release among the Mediterraneans, Mongolians, Persians, Assyrians, Early Egyptians, Grecians, and Europeans.

The primary methods of release, that is, the simplest forms, are practiced by the Ainos of Japan, the Siamese and sixteen tribes of American Indians.

What is called the "Mediterranean" release is practiced by the Esquimaux, and the European nations. Another method called "Mongolian" is practiced by the Chinese, Coreans, Turks, and Japanese. Among the ancients, the "primary" methods were used, but the "Mediterranean" release was common among Arabians, Indians and Romans; the "Mongolian" among the Scythian and Persians. In the middle ages the "Mediterranean" release was used by the English, French, Saxons, and Swedes.

This subject has never been treated so thoroughly before. Mr. Morse deserves great credit for the examination of it.

Indian Games, by ANDREW MCFARLAN DAVIS. Bulletin of the Essex Institute July—Sept., 1885.

The games described by the author of this pamphlet, are as follows: "La Crosse," "platter or dice," "straw, or Indian cards," "Chunkee or hook and

pole," "spear and ring." Among the games of chance is one resembling our game of "button," a sort of guessing about what is in the hand.

The author has described these games at considerable length, and has quoted many authorities. The monograph shows very considerable research. The subject is, however, by no means exhausted, as there are many games which are not mentioned. It is pleasing to know that such subjects are gaining attention. The Bulletins of the Essex Institute will be likely to be valued by the archaeologists, for the appearance of such valuable monographs.

American Oriental Society.—Proceedings at Boston, May 1886.

Among the topics discussed were the following: *Hebrew Military History*, by Gen'l H. B. Carrington, U. S. A.; *A Greek Manuscript* in the Philadelphia Library, by Prof. I. H. Hall; this belongs to the 14th or 15th century; *The Identification of Azaris, at San*, by Rev. W. C. Winslow; *The Warrior Caste in India*, by Prof. E. W. Hopkins; *Hindoo Eschatology*, by Prof. W. D. Whitney; *The Naga Language of Assam*, by Prof. John Avery; *A Sacrificial Tablet from Sippar*, by Prof. D. G. Lyon; *Recent Assyriological Publications*, by ditto. Mr. W. H. Ward exhibited a few Cylinder Seals, Phœnician, Syrian, Babylonian and Persian; also a few photographs of Hittite Scriptures; and Rev. T. P. Hughes made remarks on the Religion of Islam.

Resolutions were passed commending the explorations of the "Egypt Fund."

"*The Medicine Man*," or *Indian and Eskimo Notions of Medicines*. By Robert Bell, M. D., L. L. D. Reprinted from the Canada Medical and Surgical Journal, March and April, 1886.

There are two ways in which the term "medicine," is used,—one being equivalent to magic, and the other to physic. Both are described by Dr. Bell in this interesting pamphlet.

The author does not undertake to show up the impostures of the so-called Indian doctors, so common in our cities, but he does show that the remedies common among the Indians, are few, compared with the witcheries. There are twenty classes of drugs among the Crees, nine of which are beneficial, and the balance injurious. In surgery the "medicine men" resort to cupping by means of *sucking tubes*. The sweat bath is in universal use. The plants used for medicine are as follows: sweet flag, yellow-pond lily, spruce, balsam, and willow bark, honeysuckle, juniper, dogwood, blue flag, pigeon cherry, mountain ash, wild mint and snake-root. This is an interesting line of study. We are grateful to Dr. Bell for making known his observations.

Legions of the Land of Lakes, History, Traditions, and Mysteries. Illustrated. By GEORGE FRANCIS. Chicago. G. F. (George Francis) Thomas, Publisher.

This pamphlet is too sensational to be reliable as a guide book, though it is sold as such. The legends and traditions, which still linger among the rocks and rivers of Wisconsin and the West, as an inheritance from the races which have passed away, should be collected, but it should be done correctly. The author is on the right track. By calling attention to the subject, he may interest some one who will enter into it with conscientious truthfulness and zeal.

Annals of Fort Mackinac. By DWIGHT H. KELTON, Captain U. S. Army. Whitney Edition. 1885.

This excellent guide book contains, first, the name; second, the history; third, the description of the localities, forts, buildings, etc.; fourth the legends still lingering in the island, and closes with a list of Indian and French geographical names. It is well illustrated, and conveys a large amount of valuable information.

Objects of Interest, from the Plains and Rocky Mountains. By H. H. TAMMEN, Denver, Col.

M. Elliot Woodwards, Seventy-Fifth and Eighty-Second Sales, Archaeology, War Relics, etc.

Catalogues by dealers in archaeological relics, often contain information as to the relics, which are being sold, both at the east and the west. They are valuable especially when issued by reliable men like the above.

Ten Years among the Indians at Skokomish, Washington Territory. By Rev. ELLIS.

This book opens with a home-like picture of the Skokomish Agency for a frontispiece. There is a chapel, two private houses, nestling among trees on a bank of a lake in the picture. This is the home of our friend, Rev. M. Ellis, who is so well known to the readers of the *ANTIQUARIAN*. The book contains a history of the mission, especially for the last ten years. It contains incidents and descriptions of the Clallam Indians so far as they are related to the mission work. The book is illustrated by cuts representing the masks, potlach houses, grave houses of the Indians and some portraits of converted, civilized young men. It contains several Indian hymns in the Clallam language. The book is nicely printed and forms an attractive and interesting volume for the Missionary Library.

A Naturalist's Wanderings in the Eastern Archipelago, a narrative of Travel and Explorations from 1878 to 1883. By HENRY O. FORBES, F. R. G. S. 536 pages; New York; Harper and Brothers, Franklin Square; 1885.

This book, like all of Harpers Publications, is splendidly printed. It contains three folded maps, and three sketch maps, several full page engravings, and many wood cuts scattered through the body of the type. The following illustrations are noteworthy:—earthen ware pots in Java, houses in Sumatra, specimens of the native writing, representation of the coat-of-arms, also of monoliths and idols in Sumatra, scenes of tiger hunting, methods of dressing hair in Timorlaut, engravings of ear-rings, combs, and belt buckles, the grave of a native chief and idols found in the same country. Mr. Forbes is not only a naturalist but an archæologist. His book contains a great variety of useful material, including descriptions of birds, plants and other native products, as well as of races, and artificial inventions. Our readers will find much instruction from perusing this book. It brings the distant islands of Sumatra, Java, and the Moluccas very near, and is almost equal to taking a voyage to them.

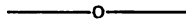
Salamambo of Gustave Flaubert, Englished by M. FRENCH SHELDON; Saxon & Co., Fleet St. London, and Tribune Building, New York.

The author of this book was a son of a French surgeon. He was forty-one years of age when Salamambo made its appearance. It is a story of Carthage during the time of Hahno and Hamilcar. The author had evidently made himself familiar with the times before he wrote the book. No mere sensational story writer could have written it. It is instructive and somewhat interesting. The chapters at the beginning creak like an over-burdened cart with the weight of words descriptive of the Carthaginian antiquities, but the author gets under way at last and the book becomes a French diligence loaded with ancient Carthaginian passengers. The style is well sustained. It is a style suitable to a novel and yet superior to that of most novels. For those who have not the patience to read history such books become very instructive; they are better than most history because they bring out the scenes more perfectly and present the pictures in detail. The translator has dedicated the volume to Henry A. Stanley. The author is a Frenchman the publishers Englishmen, the subject of the book is Carthage, the time is during that of the Roman Conquest; the book is therefore decidedly cosmopolitan; none the less interesting because of the mingling of nationalities.

Legends of the Northwest, by H. L. GORDON, St. Paul, Book and Stationery Co. 1881.

The legends of the native races narrated in the language of modern poetry do not always prove satisfactory; they are too much like old paintings put into new frames, old wine in new bottles. Longfellow was successful for he seemed to drink in the spirit of the wild-wood and expressed the feelings of the native story-tellers. Very few works can compare with the charming idyll *Hiawatha*. There are many imitations. This book by Mr. Gordon contains mainly the legends of the Dakotas as follows: The Feast of the Virgins, or a story of Red Cloud and Wawaste, the "sweet faced daughter of Little Crow;"

Wiaona, written in hexameter verse; The Legend of the Falls, the best of the series; The Sea Gull, a legend of the pictured rocks of Lake Superior. The stories which were afloat on the frontiers when the white settlers came in, are here perpetuated. The names and many of the myths are embodied in these poems, and so far, good. The style is chaste, and for the most part truly poetical, and does not obscure the subject any more than all modern poetry would be very likely to do. The only fault is that the thought and style and imagery are not Indian, but Anglo Saxon, like setting native songs to modern music. Plantation melodies are often attractive, but when musicians undertake to set them to music they prove failures; they become travesties. Persons who are learning French or German, may be said to have mastered the language when they dream in French. Mr. Gordon claims to have devoted many leisure hours to the study of the language, history, traditions, customs, and superstitions of the Dakotas, but he does not dream in Dakota. This is our criticism, and yet the book is one which we can heartily commend. It is attractive, beautifully printed, well illustrated, and certainly interesting, all except the hexameter verse; that is too heavy for anything.



BOOKS RECEIVED.

Bibliotheca Americana, 1886. Catalogue of a valuable collection of Books and Pamphlets relating to America, with a descriptive list of Robt. Clark & Co's Historical Publications. Robt. Clarke & Co., Cincinnati.

Annals of the Grand Lodge of Iowa. Vol. X., Part II.; 1886. P. S. Parvin, Secretary. Cedar Rapids, Iowa.

Transactions of the Wisconsin Academy of Sciences, Art, and Letters. Vol. II. 1881-83. Madison, Wisconsin. Democrat Printing Co.; 1886.

Kansas Historical Collections; Vol. III., 1883-84. Quarter Centennial Proceedings; 1886. Topeka Publishing House.

New Jersey Archives, Vol. X. Documents relating to the Colonial History of the State, 1767-1776. Newark, N. J.; Daily Advertiser Printing House. 1886.

Kansas Historical Collections, Vol. III: 1881-84. Quarter-Centennial Proceedings. Topeka: Kansas Publishing House. 1886.

Development of English Literature and Language: by ALFRED H. WELSH, A. M. Vol. I, 506 pages; Vol. II, 560 pages. S. C. Griggs & Co., Chicago. 1886.

An Account of the Progress of Anthropology, in the year 1885, by PROF OTIS T. MASON. From the Smithsonian Report for 1885.

The Legends of the Panjab, by Capt. R. C. TEMPLE, Bengal Staff Corps No. 27. March 1886. Vol. III; Education Society's Press. Bombay, 144 pages.









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